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Behaviour Change Scale-Up in Market Systems Development

A literature review

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Executive Summary

Background

This literature review was developed by the International Centre for Tropical Agriculture (CIAT) as part of the Policies, Institutions and Markets Program of the CGIAR. Its objective is to gain a better understanding of scale up processes, strategies and practices in programmes aimed at reducing poverty through improved markets. Its focus is the dissemination of new behaviour through these markets as a result of the interventions of said programmes.

The review explores what works and what doesn't; how promising interventions and institutional innovations in market systems become accepted and used by large numbers of people; and, the knowledge gaps that could be addressed by further research.

Rationale

The impacts of development interventions depend on the capacity of the implementers to bring about widespread behavioural change (Simpson 2015, p. 1). This is particularly important in the field of inclusive market development (also known as value chain promotion or development) which promises to get large numbers of people out of poverty through ongoing initiatives of entrepreneurs and policy-makers, driven by strong incentives to add and extract value.

Yet, despite the importance of behaviour change and the benefits that market development programmes could generate if they invested in stimulating lasting behaviour change, there is limited scientific literature on how to generate these changes (Campbell 2013, p. 20).

The lack of knowledge about behaviour change and its relationship with market properties, such as productivity, efficiency, innovation and resilience, hampers the capacity of market development initiatives to monitor and manage their interventions.

Methodology

This is a desk-based review of literature from the fields of inclusive market systems development (MSD)[1], diffusion of innovations and behaviour change. It includes peer reviewed papers, case studies, evaluation reports, grey literature and other literature reviews.

The review identified strategies used by MSD programmes to get from pilot to scale and the factors at play in this process. It uses Diffusion of Innovations (DOI) theory as a reference point

[1] It is very difficult to estimate with certainty the size of the MSD field. Experts still debate key MSD principles, concepts and methods; and there is no single, widely accepted definition of what an MSD project is. Furthermore, there are projects that could be considered MSD but are not being reported as such. Based on their own experience, studies referenced here and the BEAM Exchange Programme Index (which includes circa 45 projects), the authors calculate that there are currently around 60 MSD projects worldwide investing an average of USD 1.5 million annually. Therefore, it is reasonable to think that the MSD field is approximately USD 100 million per year and growing. It should be noted that there are likely more value chain projects than MSD projects so total donor spend on these topics is likely substantially greater.

to assess the relevance and current use of said factors, as well as those that are not being used and that could increase the scale-up effects of MSD interventions.

Findings

MSD scale-up strategies and practices

The review found that MSD programmes use five scale-up strategies and two implementation practices. The scale-up strategies are classified under 'driving strategies' and 'enabling strategies'.

There are two types of **driving strategies**: network-driven and firm-driven. In the network-driven strategy, the programme pilots business model innovations with a select group of market actors and helps them find the best way to work together. In the firm-driven strategy, the programme stimulates scaling-up by aiding the expansion of a strategically positioned business with the capacity to influence relatively large numbers of suppliers and buyers. **The network-driven strategy appears much more frequently in the literature than the firm-driven one**.

There are two **enabling strategies**: improving policies and quality standards and improving supporting functions and Business Development Services (BDS). Enabling strategies play a key role in unleashing the potential of networks and lead firms to attract investment and scale-up technologies, behaviours and practices.

Implementation practices include engaging, supporting and enabling 'movers and shakers'[2]; and building the capacity of marginalised actors. These practices are used as part of the implementation of the scale-up strategies to increase their chances of success.

Scale up factors

The review identified 13 factors commonly used by MSD programmes that seem to play important roles in the scale-up process. These factors were classified under six domains:

DOMAIN 1: DESIGN	DOMAIN 2: PERCEPTIONS	DOMAIN 3: BUSINESS MODEL
– Product and service design. – Standardisation.	– Risks and uncertainty. – Barriers to access.	– Costs (of running the business). – Benefits and business sense.
DOMAIN 4: RELATIONSHIPS	**DOMAIN 5: COMMUNICATIONS**	**DOMAIN 6: CAPACITY**
– Trust-based relationships and networking. – Dialogue between market actors. – Dialogue between program team and market actors.	– Communication of progress, results, lessons, evidence of impacts and benefits.	– Capacity to innovate. – Capacity of early adopters and opinion leaders. – Incremental change and learning.

[2] This is a broad term that includes innovators, early adopters, early majority and late majority (see "innovativeness of individuals" section for definitions).

The six domains are briefly described below, together with the matching elements in DOI theory and the main findings regarding the use of scale up factors in MSD programmes.

DOMAIN 1. DESIGN

- Domain description: This domain focuses on the characteristics of products or services that enable or hamper their adoption and dissemination. The most commonly mentioned characteristics are *appropriateness, affordability, flexibility and standardisation.*
- Matching DOI elements: Relative advantage, compatibility with users' values and needs, ease of use, trialability, observability of effects.
- Evidence of use in MSD: There is evidence of MSD programmes using and paying attention to most of elements highlighted by DOI.

DOMAIN 2. *PERCEPTIONS*

- Domain description: This domain refers to all the strategies, mechanism and tools that MSD programmes have at their disposal to, on the one hand, reduce the perceptions of risk and uncertainty linked to the adoption of an innovation and, on the other, to reduce barriers that potential adopters may face to adopt the innovation. *Subsidies, contracts, information, and technical assistance* were frequently mentioned.
- Matching DOI elements: Exposure to and basic understanding of the innovation; formation of positive or negative attitudes towards it; acting to adopt or reject it; putting it into use; reinforcing decision and maintaining it in use.
- Evidence of use in MSD: There is evidence that a few MSD programmes consider some innovation-decision stages. For example, trial periods, free samples and subsidies are used to increase market actors' exposure and knowledge about new products and services; and technical assistance and peer-support groups are used to help market actors implement the innovations. What is not clear is to what extent MSD programmes are using DOI theory (or any other theory) to plan and implement the process that market actors must go through from exposure to sustained adoption.

DOMAIN 3. BUSINESS MODEL

- Domain description: This domain refers to the collaboration and coordination of market actors to make and sell products or services. *Costs and benefits* (profitability) of running the business model were frequently mentioned, together with the need to help potential participants *make sense of the business opportunities* therein.
- Matching DOI elements: No match. DOI theory does not talk about business models. This could be because DOI approaches innovation as a discrete idea, practice or object, not as a diffused entity that manifests in one or more networks. Nevertheless, a business model is an innovation and its design should consider the characteristics proposed by DOI (see Design domain above).
- Evidence of use in MSD: The MSD literature includes many references to the idea of business model innovation and there are programmes that are carefully considering the

design, context and requirements for business models to be effective, sustainable and scalable.

DOMAIN 4. RELATIONSHIPS

- Domain description: This domain refers to the commercial and personal connections established between market actors. The most commonly mentioned characteristics were *trust-based relationships and networking, dialogue between market actors and dialogue between the programme team and the market actors with whom the team engages directly.*
- Matching DOI elements: Three aspects of social systems: structure, norms and actors.
- Evidence of use in MSD: There is significant evidence of MSD programmes considering actors, relationships and norms. However, there are very few examples of MSD programmes considering structural properties and patterns of networks, such as size, density, centrality and connectedness, to make strategic decisions.

DOMAIN 5. COMMUNICATIONS

- Domain description: This domain refers to the flow of information between market actors through different channels and with varying levels of formality (from formal documentation to informal and even non-verbal information). The most common types of information in MSD programmes are about *progress made, results achieved, lessons learned and evidence of impacts and benefits.*
- Matching DOI elements: Mass media, interpersonal channels and diversity between actors (homophily and heterophily).
- Evidence of use in MSD: There is evidence of MSD programmes using mass media and interpersonal communications. The use of homophily (e.g. peer-support, farmer-to-farmer communications and local sales agents) seems to be more planned and intentional than that of heterophily, which appears to be done in a more opportunistic and ad-hoc way (e.g. selection of market actors participatory analysis and co-creation of solutions).

DOMAIN 6. CAPACITY

- Domain description: This domain refers to the combination of competencies and skills that market actors require to find, test and evaluate innovations, as well as the competencies and skills they build through their exposure to the innovations. The most frequently mentioned characteristics where *capacity to innovate, incremental change and learning, and capacity of early adopters and opinion leaders.*
- Matching DOI elements: Innovativeness of individuals (innovators, early adopters, early majority, late majority and laggards).
- Evidence of use in MSD: MSD programmes frequently use capacity building as part of their scale-up strategies, mostly focused on market actors with whom the MSD programmes work closely. Some MSD programmes recognise that different market actors have different baseline levels of innovative capacity, but only a few use changes in innovativeness to assess systemic change. No evidence was found of intentional efforts

by MSD programmes to (i) assess the levels of innovativeness of the market actors before they are trained; (ii) select trainees accordingly; and (iii) build their capacity not just to help them adopt new behaviours but also to equip them to influence others to adopt new behaviours. The late majority is still a neglected group when it comes to awareness raising, engagement and influence.

Conclusions

MSD programmes are increasingly aware of the importance of behaviour change for scalability and sustainability. However, more work is needed before MSD programmes systematically apply behavioural change science to maximise their impacts.

The MSD approach has a general theory of change, based, on the one hand, on the initiative of a relatively small group of innovators and early adopters with whom the programme interacts closely and, on the other, the responses of an 'early majority'. Beyond this point, it is very difficult for MSD programmes to know what happens with innovations and changes in behaviour of the 'late majority'. The multiplicity of factors that contribute to systemic change mean that a causal connection with the programme's interventions is hard to establish. However, there is increasing interest in innovative M&E methods to detect early signals of shifts towards structural change. Behaviour change science can contribute a great deal to this exploration.

The superficiality or absence of detailed analysis of the facilitation strategies used by MSD programmes is notable. This is crucial, given the paramount importance of facilitation in the adoption and adaptation processes. Programmes may plan and execute the facilitation process well, but in most cases these details do not make it into their reports or case studies. When they do, there are no theoretically-grounded explanations of why certain facilitation strategies were used or why they worked or not. There is no explicit intention to scientifically test (within the limitations of social science research) the effects of their facilitation strategies on adoption, scale-up and sustainability.

Recommendations for future research

Product, service and business-model design: This is one of the strongest areas in MSD programmes but systematic application of DOI theory and behaviour change science to it can contribute to increased adoption rates.

Stakeholder innovativeness: Are there specific combinations of stakeholders with different levels of innovativeness that maximise diffusion of innovations in MSD initiatives? How can this knowledge be used to identify innovators and early adopters and bring them together to stimulate scale up?

Innovativeness-aware capacity building: Many MSD programmes already invest in building the capacity of different market actors to adopt new practices and of lead firms to expand. However, a better understanding of how to tailor capacity building interventions according to

the innovativeness levels of different stakeholders could increase the effectiveness of these interventions.

Network structure: Despite the challenges in measuring and monitoring network structures, it is important for MSD practitioners to increase collaboration with social network experts to gain a better understanding of how network analysis techniques can be used in different sectors and contexts.

Driving strategies and governance: The market actors involved in both the network-driven and firm-driven strategies have different levels of power, decision-making and influence. This influences how market actors build trust, collaborate, share information and invest. It is, therefore, important to understand the effects of the scale-up factors identified by this review on these two strategies.

Perceptions: Research in this area can help MSD programmes improve their facilitation processes and strategies by providing a better understanding of what goes on in the minds of market actors throughout the innovation-decision process. How do the collaborators perceive the MSD team and how does this affect rates of adoption? How do market actors (both public and private) calculate the benefits and risks of innovation in different contexts? There is already abundant knowledge about these issues in fields like marketing, psychology and behavioural science but it must be applied systematically to the contexts in which MSD programmes operate.

Strategic niche management (SNM): SNM and MSD pursue a similar objective: the creation of the right conditions for new pilots to work, take root in their local context and disseminate to the point that they displace other technologies and behaviours, transforming the broader system where they operate. MSD and SNM practitioners could benefit greatly from a joint research agenda.

Behaviour Change Scale-Up in Market Systems Development - A literature review -

Background

This literature review was developed by the International Centre for Tropical Agriculture (CIAT) as part of the Policies, Institutions and Markets Program of the CGIAR. Its objective is to gain a better understanding of scale up processes, strategies and practices in development interventions aimed at reducing poverty through transformations of markets that matter to marginalised producers and consumers. Its focus is on the dissemination of new behaviour through these markets as a result of the interventions of said programmes.

Initially, the scope of the review encompassed interventions to drive change at scale in agricultural market systems[3], with emphasis on changes in incentives, the enabling environment and relationships between market actors. However, as the exploration progressed, the scope was broadened to include findings from the market development, diffusion of innovations and behavioural science literature. For instance, the importance of changes in the characteristics of an innovation and the composition of stakeholders.

Literature and examples from other sectors (e.g. ICTs, water and sanitation and health) were also included; first, to acknowledge the efforts that donors and practitioners have been making to use market-based interventions beyond agriculture; second, to draw additional insights through contrast between sectors; and finally, to increase the applicability of the findings to multiple sectors.

The review explores what works and what doesn't; how promising interventions and institutional innovations in market systems become accepted and used by large numbers of people; and the knowledge gaps that can be addressed by further research.

Rationale

The impacts of development interventions depend on the capacity of the implementers to bring about widespread behavioural change (Simpson 2015, p. 1). This is particularly important in the field of inclusive market development (also known as value chain promotion or development), which promises to get large numbers of people out of poverty through ongoing initiatives of entrepreneurs and policy-makers, driven by strong incentives to add and extract value.

[3] Agriculture is "the largest and most established sector for [market systems development] programmes" (Robinson and Rust Smith 2017, p. 16).

Market development interventions strive to change markets *indirectly*, through the decisions made by market actors. These decisions must make sense to them and be well aligned with their interests, motivations and identity. It would be impossible for any market development programme to achieve *sustainable* impact at scale by imposing preconceived ideas on the market actors. Handouts and subsidies can help modify the behaviour of some stakeholders but not for long. "The way in which programmes engage with and support market players determines how successful they are in stimulating lasting behaviour change. Understanding incentives, and taking them seriously, must precede intervention" (The Springfield Centre 2015, p. 27).

Yet, despite the importance of behaviour change and the reasonably well documented case that market development programmes can benefit if they invest in stimulating lasting behaviour change, there is limited scientific literature on how to generate these changes (Campbell 2013, p. 20).

The lack of knowledge about behaviour change and its relationship with market properties, such as productivity, efficiency, innovation and resilience, hampers the capacity of market development initiatives to monitor and manage their interventions.

"Donors and practitioners are working to improve their understanding and application of systems concepts within inclusive market system development while also seeking better ways to detect, measure and evaluate systemic changes" (Fowler and Dunn 2014, p. 1). This requires more analysis and experimentation about how individuals and groups of market actors behave (Jalil and Bekkers 2015, p. ii).

Methodology

This is a desk-based review of literature from the fields of inclusive market systems development, diffusion of innovations and behaviour change. It includes peer reviewed papers, case studies, evaluation reports, grey literature and other literature reviews. The literature includes anecdotal and empirical evidence obtained using both qualitative and quantitative research.

All the cases were selected based on the authors' claims about evidence of diffusion and scale-up in market development programmes. Some of the authors were involved in the programmes (e.g. as a member of staff) while others were studying them from the outside (e.g. as independent researchers). Their claims and results were taken at face value and were not triangulated or contrasted due to resource constraints.

Scale in market development programmes, where systemic or structural transformations are key to achieve sustained impacts after the interventions have finished, is a contested concept. Many practitioners and researchers are still defining what *significant* scale means in different contexts. This review accepts that impacts with 'significant scale' include both quantitative and

qualitative elements. The quantitative element refers to the number of market actors benefited by the programme, in relation to the total size and density of the market they operate. The qualitative element talks about the types of changes in behaviour, rules, institutions, networks, processes, discourses, etc. that provide information about the likelihood of a market system continuing to deliver benefits long beyond the life of the programme. Only literature that makes reference to both elements was selected for this review.

The review builds a 'bridge' between the Market Systems Development (MSD) approach and the Diffusion of Innovations (DOI) theory. The purpose of this bridge is to use DOI as a reference point to increase our understanding of what MSD programmes are doing that contributes to scale-up of new behaviours and practices and what is missing from their strategies and execution.

The review is structured as follows: The first section introduces the reader to a set of basic concepts that are useful to explain what MSD is and what it tries to achieve. The second section reviews MSD literature to find the most common strategies used by programmes that have achieved significant scale. The third section introduces DOI theory in some detail; its components, strengths, weaknesses and some implication for MSD programmes. The fourth section reviews MSD literature again, but this time, using DOI theory to search for specific factors that contribute to scale-up. The fifth and final section puts forward conclusions and recommendations for future research.

Basic Concepts

The relatively new field of market systems development – which for many represents a paradigmatic change in how international development is done, is going through a process of maturation and conceptual convergence, but some key concepts and practices are still contested; therefore, it is important to explore some basic definitions before diving into the review.

System

According to Williams and Hummelbrunner (2011, p. 16), "there is no single, concise and generally agreed-upon definition [of system]". However, Meadows (2008, p. 188), provides one that is appropriate for this review[4]. She defines it as "a set of elements or parts that is coherently organised[5] and interconnected in a pattern or structure that produces a characteristic set of behaviours, often classified as its 'function' or 'purpose'". Networks, institutions, communities, companies, formal and informal institutions, social norms and collective discourses used to describe reality are examples of such patterns and structures.

[4] For more examples of definitions, see Harries, Wharton and Abercrombie (2015, p. 6).

[5] Or that "function as a whole" (Maani and Cavana 2002, p. 6).

Meadows (2008, p. 188) also proposes a set of principles related to the definition of system; two of which are relevant for this review. First, that "the least obvious part of the system, its function or purpose, is often the most crucial determinant of the system's behaviour; and second, that the structure of the system is the source of its behaviour, which "reveals itself as a series of events over time".

There is a dynamic and synergic relationship between the elements and the patterns or structures of a system. The combined behaviours and interactions of the parts produce emergent patterns and these patterns, in turn, influence the behaviours and interactions of the parts.

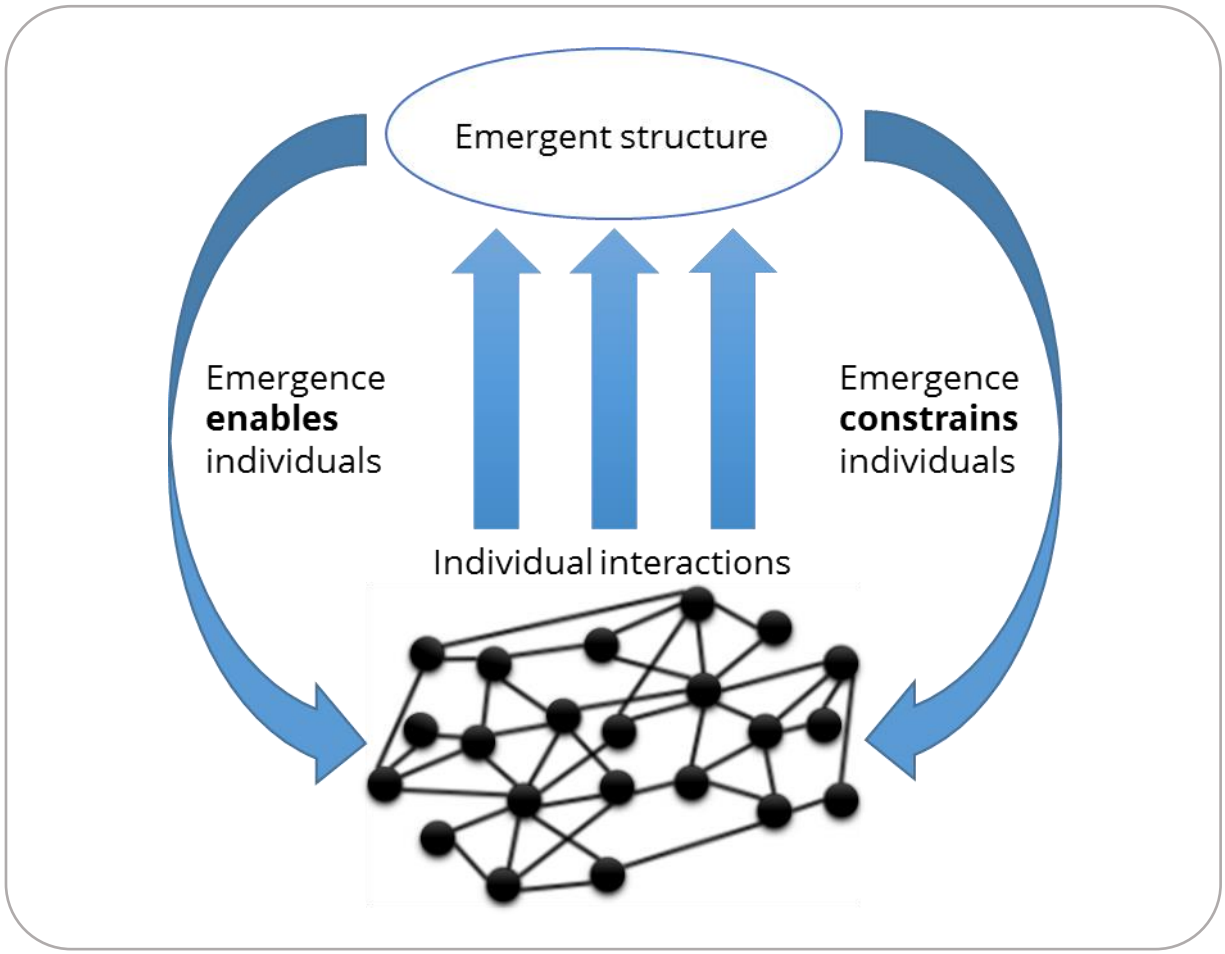


Figure 1. Relationship between the elements and patterns of a system. Source: Jenal (2016, p. 3).

Market System

According to The Springfield Centre (2015, p. 3),

> *A market system is a multi-function, multi-player arrangement comprising the core function of exchange by which goods and services are delivered and the supporting functions and rules which are performed and shaped by a variety of market players.*

The following is a popular representation of the above definition, highlighting two important aspects: First, that all the elements of the system gravitate around transactions and transformations of a specific product or service, which make up the 'core market'; and second, that a market system is much more than the exchange of products and services; it includes a wide range of supporting functions and rules.

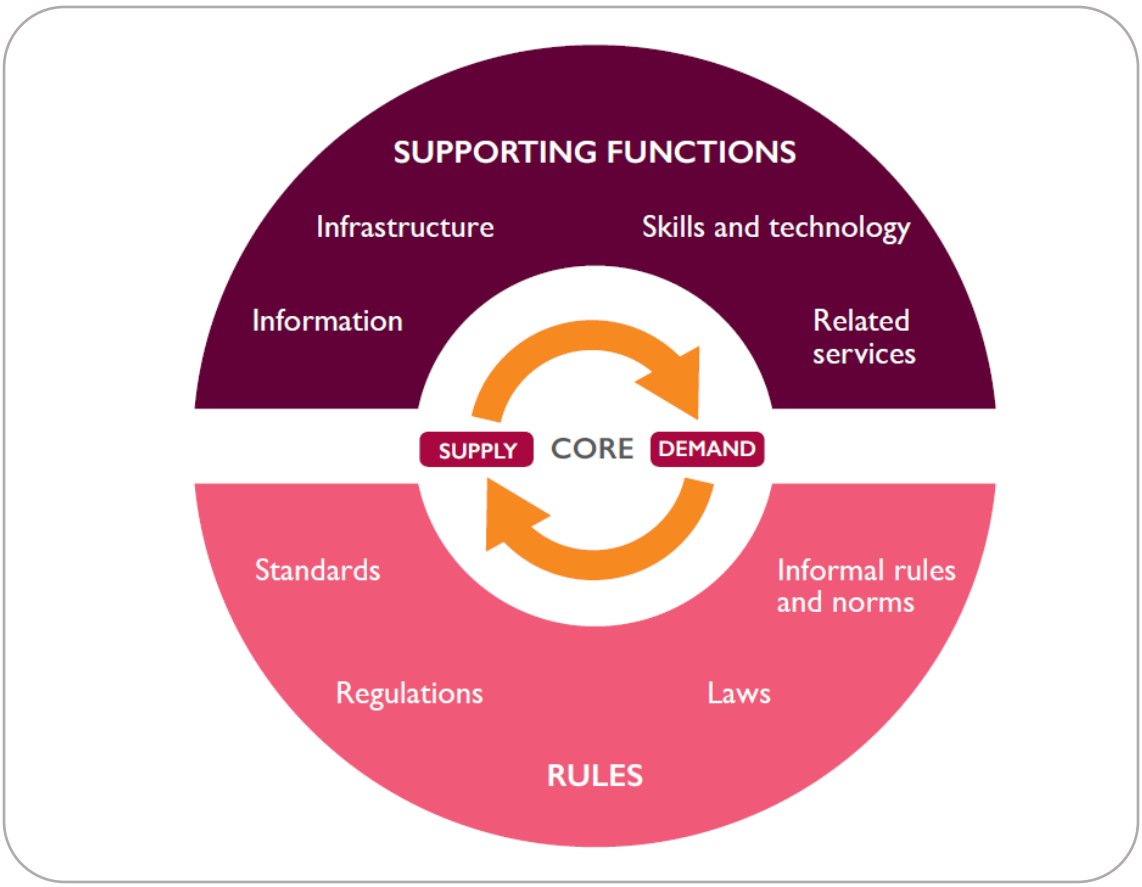


Figure 2. The M4P 'doughnut' - A model of the market system according to The Springfield Centre (2015, p. 3).

A complementary definition is provided by Campbell (2014, p.2):

> *A market system is a dynamic space—incorporating resources, roles, relationships, rules and results —in which private and public actors collaborate, coordinate and compete for the production, distribution and consumption of goods and services.*
>
> *The behavior and performance of these actors are influenced by other actors' decisions, and by rules, incentives and the physical environment. Market systems are composed of vertically and horizontally linked firms and the relationships embedded in these linkages; end markets, input and support service markets; and the environment in which they operate, which may include socio-cultural, geographic and political factors, infrastructure and institutions.*

The following diagram represents this definition:

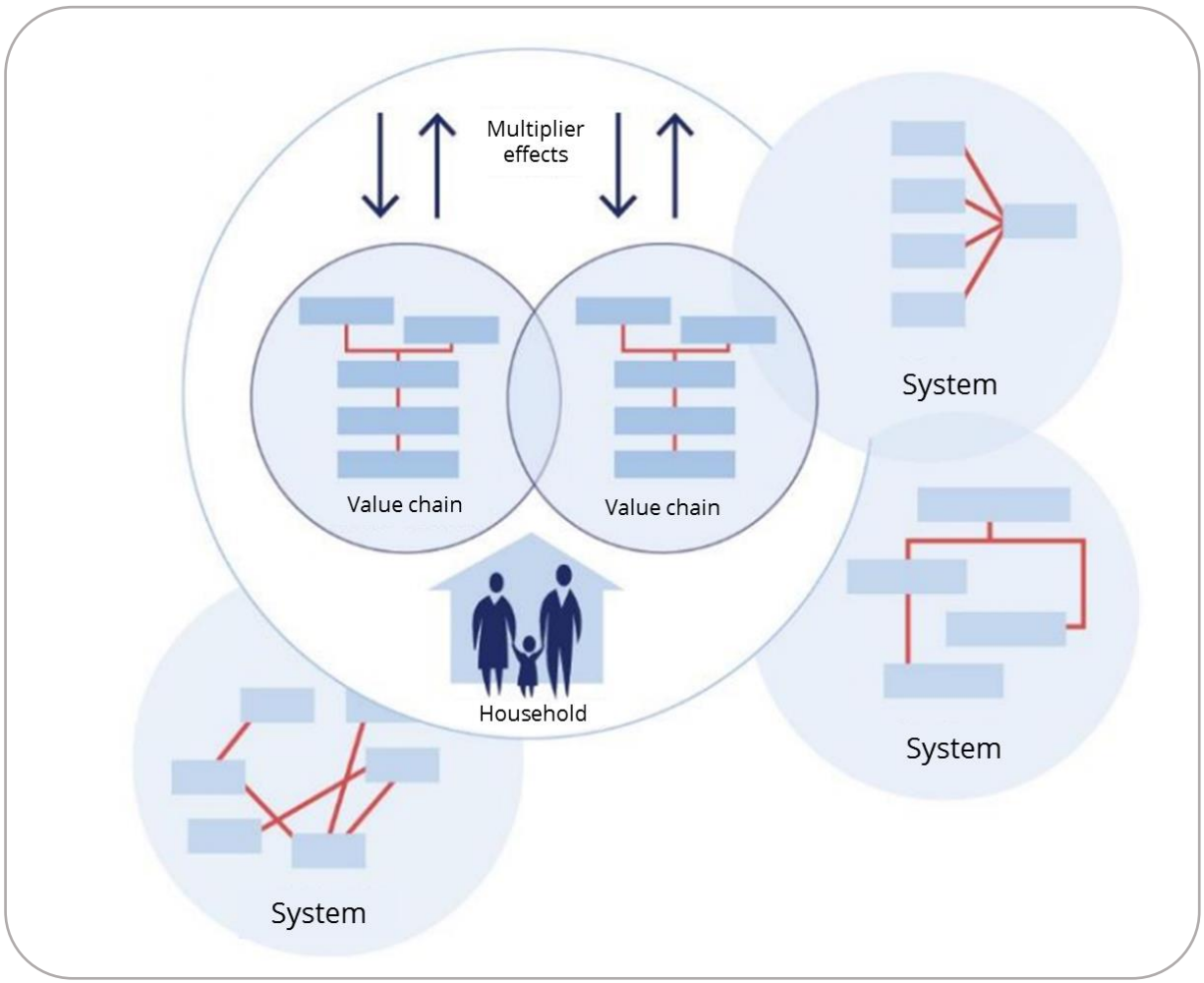


Figure 3. A complementary market system model (Campbell 2014, p. 2).

The above definition highlights the dynamic nature of markets, the ways in which market actors behave (collaboration, coordination and competition), the interrelation and interdependence of market actors, and the contextual forces that shape their behaviour. It also suggests that the links between firms are rich in relationships that have social and cultural meaning and purposes that go beyond profit-making.

Campbell's paper also states that **market systems are underpinned by one or more value chains**. However, in many sources, these two terms are used interchangeably. This begs the question: **"What is the difference between these two terms?"**

Market system or value chain?

According to Miller and Da Silva (2007, p. 143), "a value chain is often defined as a sequence of value-adding activities, from production to consumption, through processing and commercialization". However, the term overlaps with many others, such as commodity chains,

value systems, production networks and value networks (Gereffi, Humphrey, Kaplinski and Sturgeon 2001, p. 2).

Another term that makes it into the literature is 'supply chain', though not as frequently as 'value chain'. Meyer-Stammer and Wältring (2007, p. 8) explain that they are the same. What changes – they say- is the angle of analysis. "The supply chain literature is rooted in industrial engineering faculties and business schools [and focuses on how a company can] manage its supply chain more efficiently [and create competitive advantages. The value chain literature – on the other hand,] is rooted in development studies and sociology [and focuses on] the analysis of power structures in the world economy".

Looking at the definition of market system in the context of supply and value chains, it possible to argue that the evolution of practices to reduce poverty through market incentives follows a pattern of increasing *humanisation*: From an emphasis on logistics and resource allocation to power dynamics, governance and resource distribution to – more recently- household and gender dynamics, trust, perceptions, social norms, cognition and behaviour[6].

For the purposes of this review, the terms 'market system' and 'value chain' are used interchangeably.

Systemic change

This is another highly contested and debated term. Where do we draw the line between what is and what is not systemic change? What does systemic change look like in different contexts? What are the indicators we should use to detect it? Can it be predicted or forecasted? How do we know it will be sustained after the development agencies have left?

According to Taylor (2016, p. 2), "[s]ystemic change has been defined countless times, in fields as diverse as biology, education, health, philosophy and engineering. However, beyond semantics, there is little variation in definitions".

Based on Foster-Fishman (cited by Harris et al. 2015, p. 9), systemic change can be defined as: the transformation of "underlying [functions,] structures and supporting mechanisms which make the system operate in a particular way. These can include policies, routines, relationships, resources, power structures and values". Examples of other definitions can be found in Fowler and Dunn (2014, p. 3).

[6] Authors like Checkland (cited by Foster-Fishman, Nowell and Yang 2007, p. 199) have contributed to this *humanisation* and to a shift from 'hard' to 'soft' system methodologies by "challenging the notion that systems built around human activity (e.g., a system for addressing poverty) are subject to the same assumptions of functional objectivity used in understanding systems in the natural/physical world. Specifically, Checkland argues that properties of human activity systems (e.g., the function or purpose of the system, definitions of the problem, and relevant system boundaries) are often subject to the eye of the beholder and therefore may be experienced and understood differently by different stakeholders, based upon their position, role, and experiences".

In all available definitions, systemic change seems to take place at a 'deep' level; not at the surface. The changes that matter involve patterns, relationships, boundaries, perspectives, discourses, rules and behaviours, all of which are difficult to pin down, define and measure. Hence, there is a pervasiveness to it: it is a change that permeates, connects and cuts across different elements; it is not contained by clearly defined boundaries. Finally, it is a change that tends to 'stick'; it is long-lasting. Once this type of change takes place, it is very hard for the system to come back to its original state (prior to the events that triggered the change).

Behaviour change

Thanks to the work of researchers like Watson in the 1910s and Skinner in the 1930s, human behaviour started to be approached as a scientific subject, not only to understand it but also to predict it and influence it using rewards and punishments.

Since the 1930s, the evolution of behavioural sciences has been strongly influenced by the Standard Neo-classical Economics Model, which "assumes that people are rational, act based on full information, have stable preferences and always maximise utility" (Simon 1955, p. 99). This model has been "a useful predictor of choice over a very wide range of phenomena" but, its limitations in some contexts have motivated theorists to build bridges between economics and psychology. These efforts resulted in the emergence of behavioural economics (Darnton 2008, p. 5), which embraces the fact that humans have limited cognitive abilities and a great deal of trouble exercising self-control (Heshmat 2017).

Lessons from behavioural economics can be used, on the one hand, to create environments or architectures that influence people's decisions (Thaler and Sunstein 2008) and, on the other, to implement strategies for citizens to deliberate about new behaviours (John et al. 2011).

According to Dolan et al. (2011, p. 265), the first approach – known as *Nudge* - focuses on the way individuals respond to the environment and "recognises that people are sometimes seemingly irrational and inconsistent in their choices, often because of the influence of surrounding factors". The second one – known as *Think* - puts the emphasis on influencing what people *consciously* think about and assumes that people analyse incentives to calculate costs and benefits and act in ways that reflect their best interests. One approach tries to change contexts, whilst the other tries to change minds; i.e., how people reflect about their surrounding environment.

The efforts to explain and change human behaviour continue to evolve and produce many models, theories, methods and tools; so much so that the literature covering them is "enormous" and "bordering on the unmanageable" (Darnton 2008, p. 5). Reviewing it in detail is out of the scope of this document but the findings described below show that, intentionally and unintentionally, they play a key role in MSD strategies and interventions. For example, in the use of vouchers to promote new commercial relations between farmers and agro-dealers, and

multi-stakeholder platforms to enable co-creation of ideas to overcome challenges and exploit business opportunities.

Innovation

Innovation as a noun is defined by Rogers (1995, p. 11) as "an idea, practice or object that is perceived as new by an individual or other unit of adoption", such as groups, companies and government agencies. It is not necessary for an idea to be absolutely new to be considered an innovation; "[if it] seems new to an individual, it is an innovation". The original definition of innovation only mentioned ideas, practices and objects. However, a closer look into Rogers' original theory (1995) and his more recent work (e.g. Rogers et al. 2005) shows that it includes behaviours as well as hard and soft technologies.

In this review, most of the time, innovation is understood as a noun. However, innovation in some cases or interventions, innovation must be seen as a process, defined by some experts like Fagerberg (2006, p. 4) as "the first attempt to carry [a new idea] out into practice" and Smith (2006, p. 149) as the "creation of something qualitatively new, via processes of learning and knowledge building [that involve] changing competencies and capabilities, and [...] new performance outputs".

Scale

According to Fowler et al. (2016, p. 2), "[s]cale within development programming has been traditionally defined as the quantity of (usually poor) individuals or households that have [directly] participated in or benefited from an investment. [... S]cale in its typical usage is partially or fully synonymous with impact [...] While 'scale' is understood in broad terms, in practice its definition has varied widely."

The authors question this definition in the context of MSD and propose that a more appropriate definition should include two broad components: "the percentage of the population in a given system that has adopted the behavior or received the benefit an intervention sought to induce, and [...] the process by which the change took place, allowing an observer to judge the degree to which an observed change was directly engineered by a project versus the degree to which behaviors or benefits changed owing to self-sustaining waves of influence within local networks". All the cases included in this review show signs of these two components.

Diffusion

Rogers et al. (2005, pp. 3-4), in a paper that establishes connections between the Diffusion of Innovations (DOI) theory and Complex Adaptive Systems (CAS) models, define diffusion as "the process through which an innovation spreads via communication channels over time among the members of a social system" and explain that "[d]iffusion occurs in complex systems where networks connecting system members are overlapping, multiple, and complex".

Rogers (1995, p. 7) recognises that some authors, such as Greenhalgh et al. (2004), "restrict the term 'diffusion' to the spontaneous, unplanned spread of new ideas, and use the concept of 'dissemination' for diffusion that is directed and managed". This review, uses "the word diffusion to include both the planned and the spontaneous spread of new ideas".

Scale-up

Comparing the definitions of scale and diffusion above, it is possible to argue that the former gives dimension and a sustainability 'flavour' to the idea of impact; whereas the latter provides it with movement.

Curiously, there seems to be no explicit definition of scale-up in the MSD literature. A dictionary definition states that it is the process of making something larger in size or amount. However, a combination of the concepts of scale and diffusion can be the basis of a more appropriate definition for MSD. This review proposes the following:

Scale-up is the process whereby an innovation (e.g. a new behaviour, technology, etc.) spreads throughout a market system, impacting on the actors who adopt it, adapt it or are exposed to it, and transforming the system's rules, structures and dynamics in ways that increase one or more of its properties (e.g. investment, jobs, energy efficiency, consumption, etc.)

This definition responds to the fact that in market systems it is impossible to separate the scale-up of a new behaviour or a practice from that of a business model or firm.

Market Systems Development (MSD)

What is MSD?

According to Humphrey (2014, p. 5), "[t]here is an extensive literature relating to market systems approaches [and other closely related approaches, such as] local economic development, value chains (particularly by GIZ and USAID), and Making Markets Work for the Poor (M4P, supported by DFID and SDC)". All these approaches[7] take the scalability and sustainability tenets of systemic change into the socio-economic domain of the markets.

The Operational Guide for the M4P Approach (The Springfield Centre 2008, p. 5) defines MSD as "an approach that aims to improve the long-term efficiency and inclusiveness of the systems that matter most to poor women and men: those systems upon which their livelihoods rely and those that provide access to basic services".

In contrast with the neutrality of the concept of systemic change defined above (which can have positive of negative effects), MSD aims to create positive change on the lives of the poor. The

[7] Some argue that there is only one approach because the basic set of principles that underpin all these approaches are the same.

approach is deeply rooted on the idea of systemic change and, consequently, it focuses on stimulating changes in the behaviour of market actors (The Springfield Centre 2015, p. 3) and the long-term relationships between them[8]. Its systemic nature creates strong incentives for MSD practitioners to address poverty not only from an economic perspective (i.e. lack of resources) but also from a relational perspective, and therefore, also as the result of fragmentation and marginalisation.

Recognising the marginalisation and vulnerability of the poor, the MSD approach strives to engage them as active consumers and producers, or as actors who are already deeply embedded in different markets. They have needs, but also the potential to add value to customers, sellers and suppliers. There is, in fact, a two-way, symbiotic relationship between the poor and the markets they inhabit.

Strategically, MSD proposes that the interventions of external development agents must be temporary; that any long-term effect on poverty reduction must be driven by changes in the behaviour of many different public and private actors, including the poor; and that their new behaviours must be sustained by an alignment of interests and capabilities.

Characteristics of MSD programmes

The literature review reveals the following characteristics of MSD programmes. The list below is not exhaustive, but it does show a pattern: MSD programmes must deal with many moving parts at the same time and rely heavily on the private sector for innovation, sustainability and scale up.

Multiple collaborators[9]: MSD programmes *directly* support and engage with different actors to enable them or boost their capacity to drive change throughout the market system. These can be large companies, SMEs and marginalised actors. Government agencies are also important drivers, especially for policy change and investments in large infrastructure.

- Large companies: These are well established, well-connected companies with the capacity to expand their operations relatively quickly. For example, hiring more workers, buying from more providers and reaching out to marginalised actors with appropriate and affordable inputs and services.
- SMEs: These can be of many different sizes and capacities. They can be producers, consumers or input/service providers.
- Marginalised actors: These can be individual opinion leaders and very small enterprises and collectives (e.g. cooperatives, producer groups, savings-led groups and informal networks)

[8] As stated by Foster-Fishman et al. (2007, pp. 201-202), "the focus of a systems change effort is not just a change in a system part as has commonly been the frame of reference for many initiatives. Rather, a system's view of change also requires a focus on the interactions between system parts and the patterns that emerge from them".
[9] Other similar terms used in the literature are 'partners' and 'allies'.

operating in very difficult and unstable conditions and frequently affected by scarcity of resources and skills.
- Government agencies: These can be agencies at any level; from local to national to international.

Seasonality: This is a particularly important characteristic in sectors that are very sensitive to changes in weather and rain regimes, such as agriculture, water and sanitation and health. With seasonal changes come changes in prices of products and services (e.g. agricultural produce and veterinary services), household and commercial routines and migration patterns, to name just a few. These changes, modify incentives, perceptions of risk, and ultimately, behaviour.

Multiple entry or leverage points: MSD programmes focus on different blockages and opportunities to kick-start, unleash or catalyse market transformations. These transformations are expected to be driven by collaborators and "second-movers" These entry points can be mapped against the three M4P 'doughnut' components (see fig. 2):

- Core market; e.g. helping a lead firm buy from marginalised producers
- Rules or enabling environment; e.g. improving quality standards and trade policies
- Supporting functions; e.g. helping agro-dealers to provide appropriate information and training to smallholder farmers and mobilising government funds to improve rural roads.

Multiple levels: Interventions can take place at micro (e.g. firm performance), meso (e.g. relationships and networks) and macro (e.g. policies, informal norms and large infrastructure)[10]. Interventions at the meso level are one of the main characteristics of MSD programmes because it is at this level that connections between firms, networks, and subsystems can be created and improved.

Multiple 'directions' (push and pull[11]): A strategic combination of interventions to build the capacity of marginalised actors to engage more effectively with other market actors (push) and expand the quality and diversity of opportunities in the market for this engagement to be more successful (pull).

Multiple end markets: The strategies can go from local to international markets, depending on market demand and capacity of the actors involved.

Business-driven innovation: Business interests drive both technological as well behavioural innovation in the MSD approach. The review done by Brand, Fowler and Campbell (2015, p. 18) recommends to "[f]ocus on the business model as much as on the technology". The merits of the technology alone are not enough for it to scale-up; it needs to make business-sense, add

[10] See Fowler and Dunn (2014) for an explanation about why the multi-level nature of MSD interventions makes impact evaluation, and detection of scale up, challenging.
[11] For a detailed description of the push/pull approach in MSD, see Garloch (2015).

value and create competitive advantages for market actors to adopt it and adapt it. The same rationale applies to changes in behaviour or practices.

How does MSD happen?

Before exploring in more detail how MSD works in practice and the role that behaviour change plays therein, it is important to have a general understanding of how MSD is supposed to happen in theory. In other words, its overall theory of change.

A theory of change explains how interventions are understood to produce a series of outputs, enable a series of outcomes and contribute to achieving the final intended impacts (Rogers 2014, p. 1).

The most basic version of the MSD theory of change is proposed by The Springfield Centre (2015):

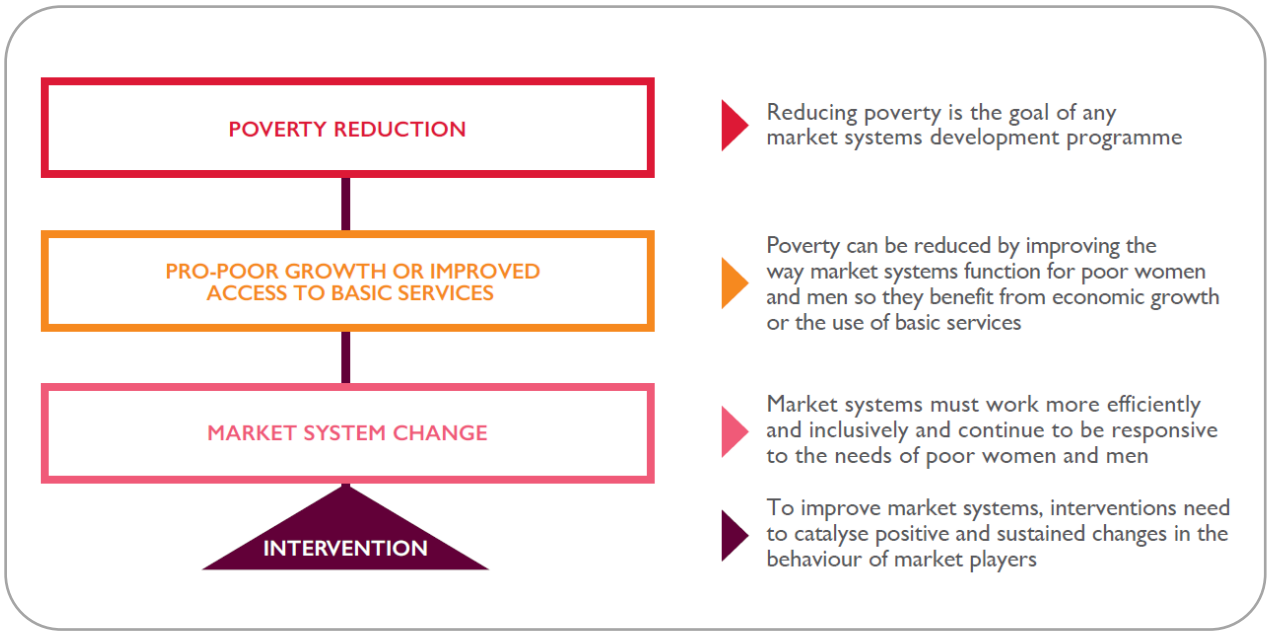


Figure 4. Simplified theory of change (Source: The Springfield Centre 2015, p. 5)

The following is an adaptation of this theory of change by the Market Development Facility (MDF):

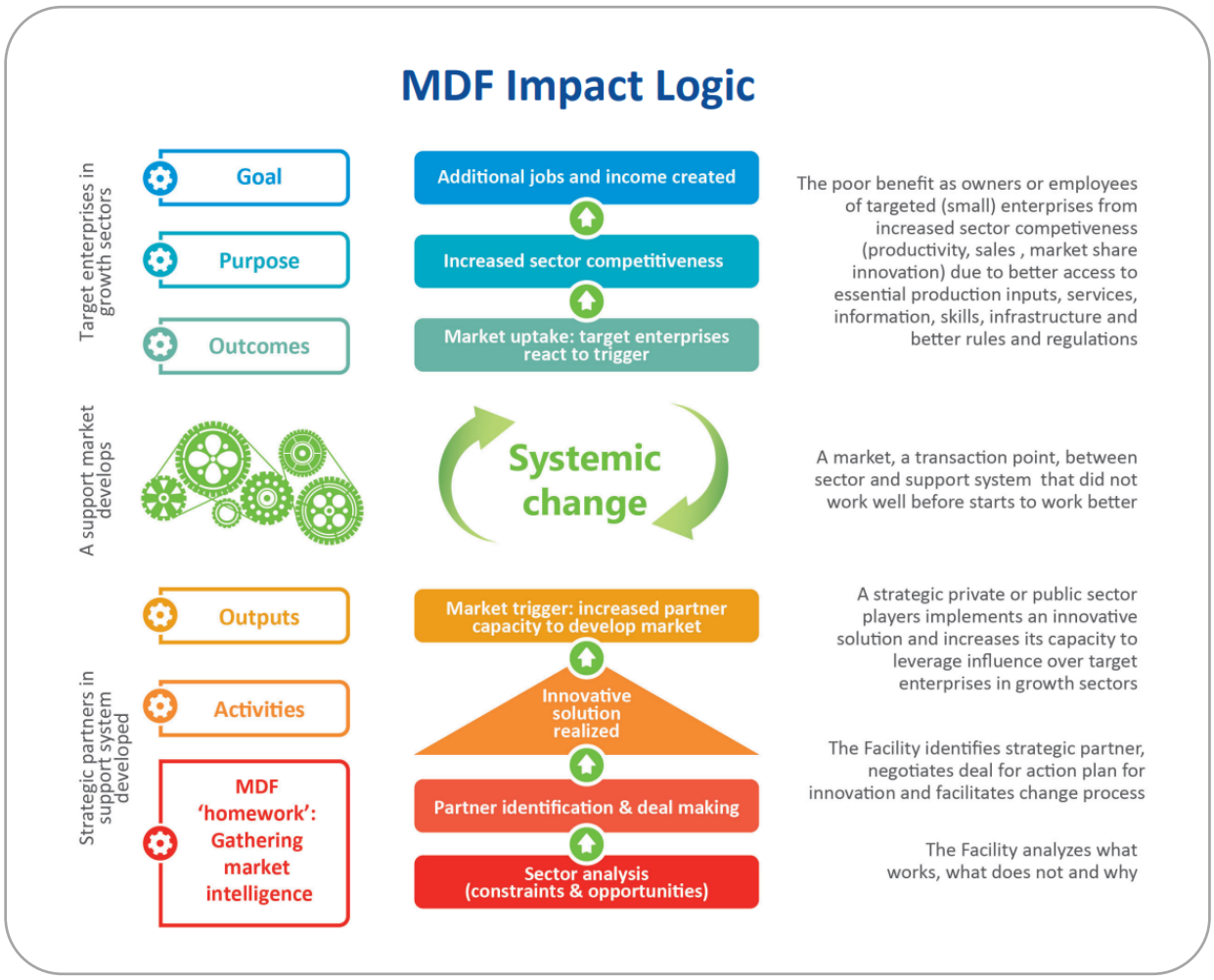


Figure 5. Example of the MSD theory of change used by MDF (Jalil and Bekkers 2015, p. 5).

"This pathway is at the core of the MDF implementation process. The MDF programme theory of change (or 'hierarchy of objectives') and each partnership designed and negotiated by MDF follows the same impact logic that enables poor women and men to take part in and benefit from growth" (Jalil and Bekkers 2015, p. 5).

Dunn (2014) presents another version of a theory of change where emphasis is given to the types of actors that the programme interacts with, namely primary and secondary contacts, and a sequence of "spaces" or processes that show how the MSD process moves away from the programme's interventions to the creation of wealth that involves and benefits people in other markets systems through "multiplier effects".

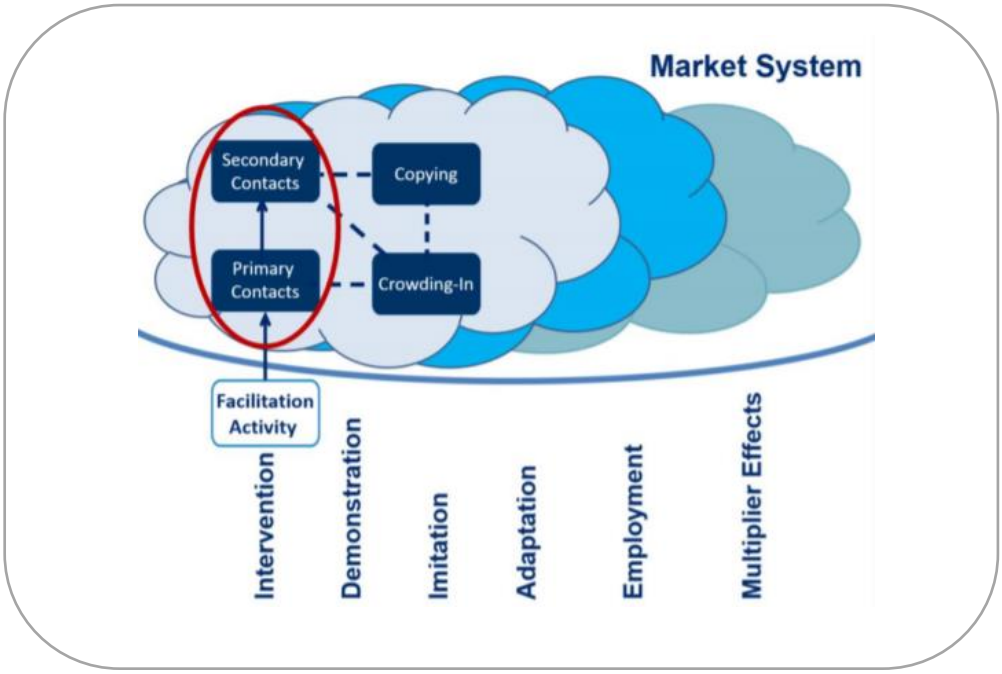


Figure 6. 'Contact groups' and 'spaces' of systemic transformation (Dunn 2014, p. 1).

In 2014, Nippard, Hitchins and Elliot (2014) formally introduced[12] a framework to manage and measure systemic change in MSD which offers programmes practical recommendations for each phase of systemic transformation. This framework, called AAER (Adopt, Adapt, Expand and Respond), was then included in and popularised by The Operational Guide for the M4P Approach (The Springfield Centre, 2015), where the framework is explained in detail.

The AAER Framework

Most of this section is a synthesis of Section 4 (Intervention) of The Operational Guide for the M4P Approach (The Springfield Centre, 2015, pp. 27-38) which explains the AAER Framework – also called Systemic Change Framework[13].

> "The Systemic Change Framework helps [...] programmes assess and measure how systems, and the players within them, change over time, and guides them on where and with whom to intervene next. The intervention process can be broken down into two main steps:
>
> "Step 1: Conduct and review pilot interventions: Engage appropriate market players as partners to promote the adoption of innovations and more effective roles that result in pro-poor changes in the market system.
>
> "Step 2: Conduct supplementary interventions that stimulate crowding-in: Develop supplementary partnerships to increase the scale of outreach and

[12] Since 2011, several significant M4P programmes, such as Katalyst (Phase II), PrOpCom Mai-karfi, and Samarth-NMDP have used the framework. (Nippard, Hitchins and Elliot 2014, footnote 5, p. 6).
[13] An additional, in-depth explanation of the AAER framework is provided by Taylor (2016).

improve other functions and rules that support the piloted innovations, to enhance responsiveness and sustainability."

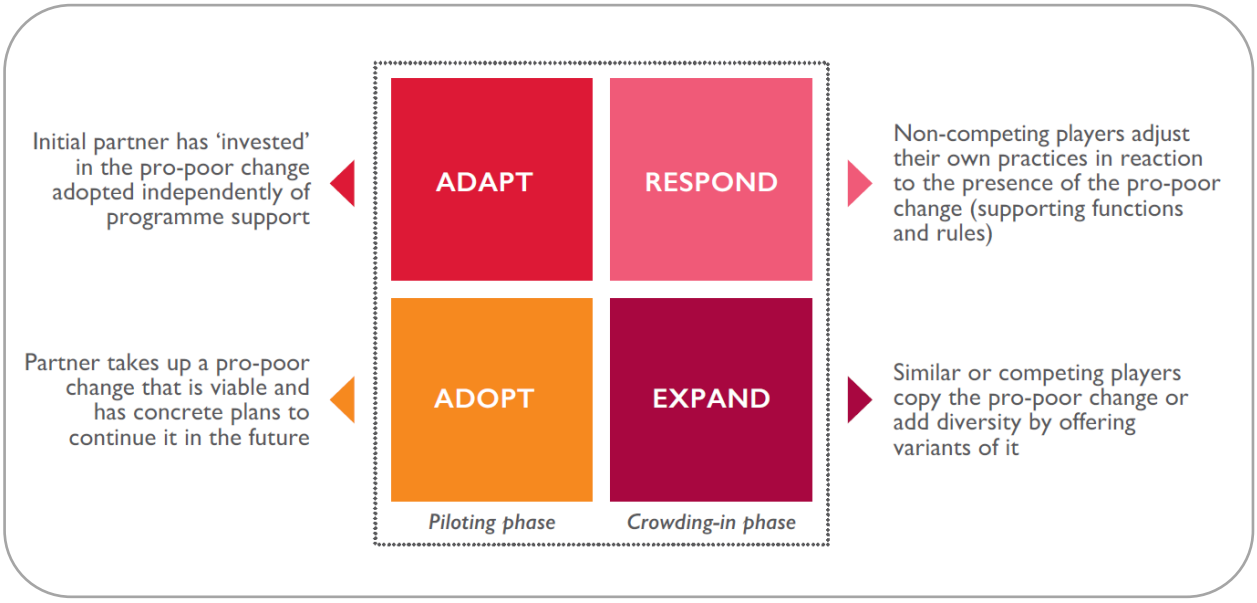


Figure 7. The AAER or Systemic Change Framework (Source: The Springfield Centre 2015, p. 27)

The Piloting Phase

According to Nippard et al. (2014, p. 7), "[t]he purpose of the piloting phase is to test and prove a [...] pro-poor innovation - with market players. Pro-poor innovations may be products; services; role changes and the uptake of new or changed responsibilities; amendments or additions to business models and how organisations cater to a particular segment; but, are always, in some shape or form, behaviour/practice changes. By the end of the piloting phase, the behaviour/practice changes trialled should have 'stuck' with the market players - be fully-owned, undertaken, overseen, and paid for by the players themselves, not the programme".

The pilot phase is composed of interactive processes of adoption and adaptation, defined in The Operational Guide (p. 32) as:

> Adopt: A market player has successfully adopted a behaviour/practice change to the ultimate benefit of the poor producer/worker/consumer, recognises the value of continuing with these changes irrespective of programme inputs, and has accordingly made plans to invest in upholding these changes and covering associated recurrent costs.
>
> Adapt: The market player that adopted the behaviour/practice changes pioneered during the pilot has made qualitative and/or quantitative investments that allow them to continue with or augment changed practices, without programme support. These actions, independent of the programme, constitute an 'acid test' for whether pro-poor outcomes will be sustained.

The Crowding-In Phase

"Once satisfied that [the] initial partners are continuing and investing in the change piloted, [the programme's] focus must shift to stimulating [crowding-in]", which is composed of two processes: Expand and Respond (pp.34-35):

> Expand: A number of market players similar to those that pioneered the pro-poor behaviour/practice changes have adopted comparable changes – either direct copies or variants on the original innovation – that are upheld without programme support.
>
> Respond: The emergence and continued presence of the pro-poor changes lead market players in supporting systems to react by re-organising, assuming new/improved roles, developing their own offers, or repositioning to take advantage of opportunities that have been created. This response enables pro-poor behaviour/practice changes to further evolve. It indicates a new capability within the system and suggests it can support pro-poor solutions to emerge and grow in future.

According to Nippard et al (2014, p. 9), "the different components - adopt, adapt, expand, and respond – [do not necessarily have to happen in sequence] (i.e. 'respond' may occur autonomously before 'expand')". In fact, Robinson and Rust-Smith (2017, pp. 20-25) present several examples where the components take place in a different order or some components are missing (e.g. crowding-in starting as a result of the piloting interventions).

As the programme moves from adoption to response, it becomes harder for it to influence the behaviour of market actors directly. Hence, as the scale-up process unfolds, paying attention to contextual factors, such as norms and infrastructure, and designing interventions to influence them (rather than individual market actors) becomes critical. The following diagram represents this loss of control due to increased stakeholder ownership and scale-up.

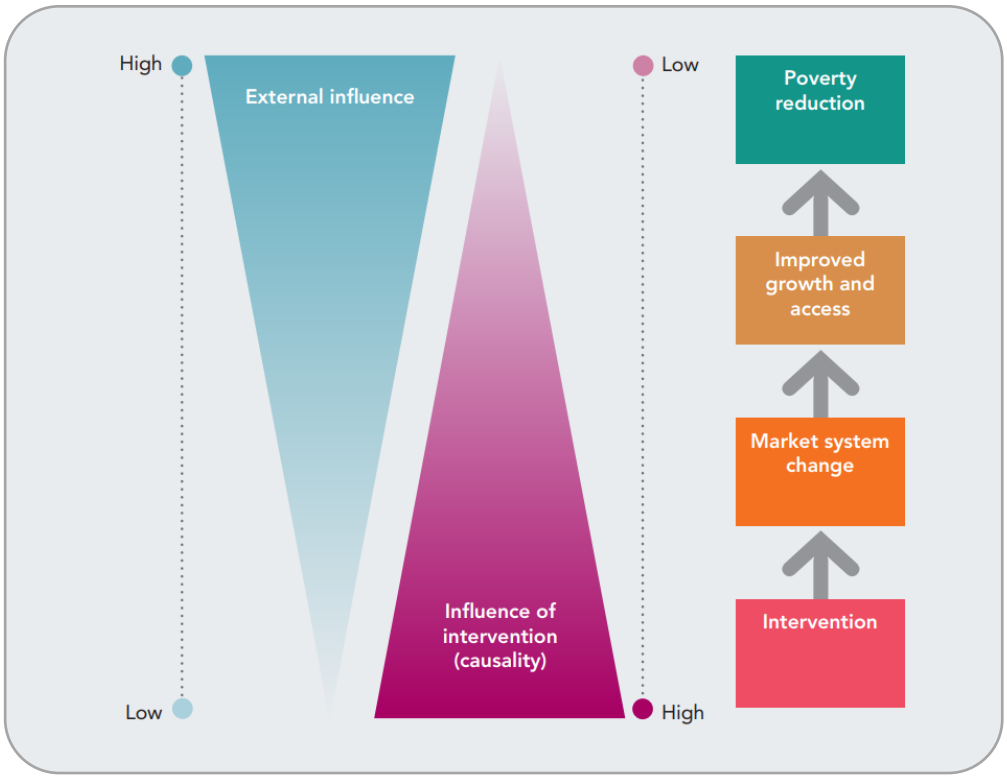


Figure 8. Loss of control and influence goes hand in hand with scale-up (Source: ITAD 2012, p. 28).

Synthesis of MSD theory of change

The review of the general MSD theory of change and its variations show that, despite differences in detail and complexity, all programmes follow the following general pattern:

1. The programme creates conditions to change the behaviour of a relatively small number of market actors who agree to collaborate with it to drive change within the system (collaborators). These conditions can be created at the micro (e.g. businesses), meso (e.g. relationships and networks) and macro (e.g. policies and large infrastructure) levels. In this phase, the programme has a close relationship with these collaborators; informing, training, connecting and subsidising them, amongst other supporting activities.
2. Changes in the behaviours of the collaborators result in innovations such as new business models, networks and agreements that improve the levels of inclusion, productivity and efficiency of the market system.
3. The programme creates conditions for a larger group of market actors to (i) copy and adapt the nascent innovations to their contexts; (ii) invest in the expansion of the innovations; and (iii) respond to new economic, social or political opportunities created by the innovations.
4. As more actors copy, adapt, invest, expand and respond to the new behaviours and innovations, improvements in the system become the norm. Some routines, discourses,

networks and institutions disappear; others appear, grow and become deeply rooted in the lives and decisions of market actors.

5. These structural transformations reinforce each other and benefit marginalised people through economic growth (e.g. more and better jobs and incomes) and improved access to products and services (e.g. agricultural inputs, education, energy and water), which in turn manifest as sustainable poverty reduction at scale.

In practice, MSD programmes must use a higher level of detail than the one provided by a general theory of change when it comes to designing and implementing their interventions. As proposed by The Donor Committee for Enterprise Development (DCED 2014, p. 6):

> Programmes aiming at systemic change should articulate an ultimate vision for the market, which states what changes they expect to see in the market system and for the target beneficiaries. The programme should also specify a causal pathway, to explain how they expect their activities to contribute to this change. This pathway should specify the incentives that different market players have to change behaviour, the mechanisms through which innovations and learning can be transferred from one market player to another, and how programme interventions are expected to influence behaviours, relationships, inceptives, rules, or capacities. It is likely to differ from market to market, and potentially even from intervention to intervention.

In fact, a good example of the strategic adaptations that MSD programmes must make, depending on the contexts they operate in, is provided by the Market Development Facility (MDF):

> "In some sectors and countries, especially those with a large pool of relatively mature market players and no significant entry barriers, companies may take over best practices that have been demonstrated to work by an early adopter ('crowding in'). In other sectors and countries the entrepreneurs, their skills or their (financial) capacity may simply not be there for this to happen in an autonomous manner and other pathways to systemic change may need to be considered, such as those involving more donor support or other sectoral change agents (e.g. government or banks) [...] Whatever the exact pathway, the end goal is that gradually the improvements in the market will become entrenched and market players will possess the incentive and capacity to continue and/or further improve over time leading to a greater number of beneficiaries." (Jalil and Bekkers 2017, p. 7).

Regardless of the level of detail used to understand the MSD theory of change, it is obvious that it relies heavily on a process of diffusion of new behaviours and practices, from a few collaborators to many market actors.

Strategies and practices in MSD programmes that show scale up

This section uses a set of reviews and studies that cover a large body of MSD literature and programmes that show evidence of scale-up driven by market actors themselves.

The following table aggregates similar recommendations and lessons learned from a wide range of MSD programmes and classifies them under two categories: strategies and practices[14]. It must be noted that some of the strategies and practices shown below may not be appropriate for specific contexts.

Table 1. Synthesis of scale-up strategies and practices.

Strategies and practices	Recommendations and lessons
Leverage networks	Bring partners together to improve efficiency, quality and outreach of the service offerings of entrepreneurs. Align market actors' incentives. Strengthen feedback mechanisms to address emerging needs and spur scale up. Strengthen the capacity of national and local institutions responsible for coordination. (Brand et al. 2015, pp. 11, 12, 22).
	Bring together a variety of value chain actors. Contract farming and outgrower schemes. (Campbell 2013, pp. 5, 18, 23).
Facilitate convergence and cooperation	Improve links between firms and other actors in the chain (Humphrey and Navas-Alemán 2010, p. 22).
	Reduce transaction costs to attract buyers to procure from smallholder farmers. Overcome short-term 'trading' mindset among buyers and promote long term commercial engagement by building trust and better contract compliance. (Fowler and White 2015b, p. 2).
	Support Business Member Organisations (Davies 2016).
Leverage large firms	Achieve scale through 'big' actors that can reach large numbers of marginalised actors (Davies 2016, p. 8).
	Large firms (e.g., input manufacturers or wholesalers, exporters) have proven better able to continue growing their outreach post-project compared with smaller entities (Fowler and White 2015a, p. 3).
	Leverage lead firms[15]. Typical interventions: Supplier development, linkages to agricultural producers and improvements of labour conditions. (Humphrey and Navas-Alemán 2010).
	Increased intra-regional trade of agricultural products, where large companies play a significant role, can help to stabilise prices (Campbell 2013, p. 33).

[14] The excerpts that make up the table were taken from different parts of the reviews mentioned and, in some cases, edited to make the table more manageable.

[15] Experts disagree about the definition of lead firm; for some, size, access to resources and influence are their main features, whilst for others, size is less important than the number and quality of connections with other market actors (e.g. buyers and providers) up and downstream the value chains. See a detailed definition in FIELD (2008, p.1).

Improve policies	Facilitate policies that drive behaviour changes for technology adoption, and spur demand- and supply-side scaling of agricultural technologies (Brand et al. 2015, p. 11).
	Strengthen or reform rules and regulations (Davies 2016, pp. 13-14).
	Leverage institutional structures and formal rules, such as tariffs and import subsidies (Fowler and White 2015b, p. 2).
	Policy reform seems to be one of the main attractors of private sector investment (Campbell 2013, p. 21).
Improve quality standards (Closely linked to the one above)	Enforce minimum quality standards and increase punishments to those who flout them (Davies 2016, p. 25).
	Improve production quantity and quality. Standards play key role to clarify and communicate end market requirements. (Fowler and White 2015b, p. 1).
	Facilitate information flows & professional networks (Brand et al. 2015, p.11).
	Facilitate communication among stakeholders along the chain. Help farmers, intermediaries, and processors understand the entire supply chain. (Campbell 2013, p. 19).
	Improve flows of knowledge and resources between firms in the chain (Humphrey and Navas-Alemán 2010, pp. 19, 20-22, 99).
Improve supporting functions and Business Development Services (BDS)	Create or strengthen supporting functions (Davies 2016, p. 13).
	Leverage five types of input-supply drivers: input suppliers, village-based microentrepreneurs, lenders, farmer collectives, and buyers (Fowler and White 2015a).
	Invest in agricultural extension services to address lack of knowledge (Fowler and White 2015b, pp. 11, 13, 16).
	Facilitate financial service provision. Strengthen markets for servicing and repair of technologies. Support extension service delivery through various market system actors. Work with R&D systems to stimulate local, market-driven processes. (Brand et al. 2015, pp. 11, 12).
Engage, support and enable 'movers and shakers'	Increase vertical and horizontal coordination. Incentivise buyers to provide improved inputs, services and technical assistance. Consider agent networks for private sector input dealers. (Campbell 2013).
	Work with 'first movers' to create demonstration effect and actively support 'second movers', especially if demo effect fails (Davies 2016, pp.10, 12).
	Different programmes analysed by Fowler and White (2015a) rely on the collaboration with first movers and the creation of conditions for second-movers to adopt and adapt business models.
	Encourage market actors to target 'early adopters' to drive adoption and technology improvements. Ensure local opinion leaders are adequately informed about technologies. Buy down the risk of market actors taking on new

	behaviours. Use piloting and local testing to confirm the potential of an innovation (Brand et al. 2015, pp. 11-12).
	The adoption of new behaviours by project beneficiaries can stimulate behaviour change in other actors (Campbell 2013, p. 19).
Build capacity of marginalised[16] actors	Leverage village-based microentrepreneurs and farmer collectives (Fowler and White 2015a, p. 2).
	Build the capacity of technology distributors to understand features that act as drivers for scaling (Brand et al. 2015, p. 12).
	Skills, such as group and financial management, marketing and natural resource management, are necessary for the "market readiness" of producer groups (Campbell 2013, p. 20).
	Work with the weakest link (Humphrey and Navas-Alemán 2010, p. 20).

The analysis of the recommendations and lessons gathered and organised in the table above suggests there are four strategies and two implementation practices that are commonly used by MSD programmes to achieve scale. The strategies can be classified under 'driving strategies' and 'enabling strategies'.

The driving strategies depend on networks of market actors (i.e. network-driven strategy) and lead firms (i.e. firm-driven strategy). In the network-driven strategy, the programme pilots business models with a relatively small and selected group of market actors and help them find the best way to work together. In the firm-driven strategy, the programme stimulates scaling-up through a relatively large business and helps it to expand its operations.

The enabling strategies focus on changing policies (which include quality standards and norms), improving infrastructure and creating or strengthening supporting functions[17] and Business Development Services (BDS)[18]. These are used to enable the driving strategies, but there is a synergy between them. For example, growing businesses can gain enough influence to lobby for policy change and better policies enable further businesses growth.

Enabling strategies play a key role in unleashing the potential of networks and lead firms to attract investment and scale-up technologies, behaviours and practices. According to Campbell (2013, p. 21), "[d]espite the variance in country contexts, the literature consistently indicates that the interventions most likely to attract private sector investment in agriculture are infrastructure development (roads, irrigation, and electrification), policy reform (including

[16] Marginalisation here is relative to the better-off actors in the market system that is being intervened.

[17] According to an analysis of almost a hundred documents reporting interventions and impacts of MSD programmes across sectors and countries, Robinson and Rust-Smith (2017, p. 22) conclude that "there [are] more evidence documents describing change in the 'supporting functions' rather than the 'rules' of market systems".

[18] "[BDS] include training, consultancy and advisory services, marketing assistance, information, technology development and transfer, and business linkage promotion" (DCED 2001, p. 1).

liberalization of the agriculture sector, land reform, and the development of regulatory institutions), and support for agricultural research and extension".

Implementation practices include engaging, supporting and enabling 'movers and shakers'[19] and building the capacity of marginalised actors. These practices are necessary to implement the main strategies and increase their chances of success.

The following diagram shows the driving and enabling strategies and the implementation practices, and the relationship between them.

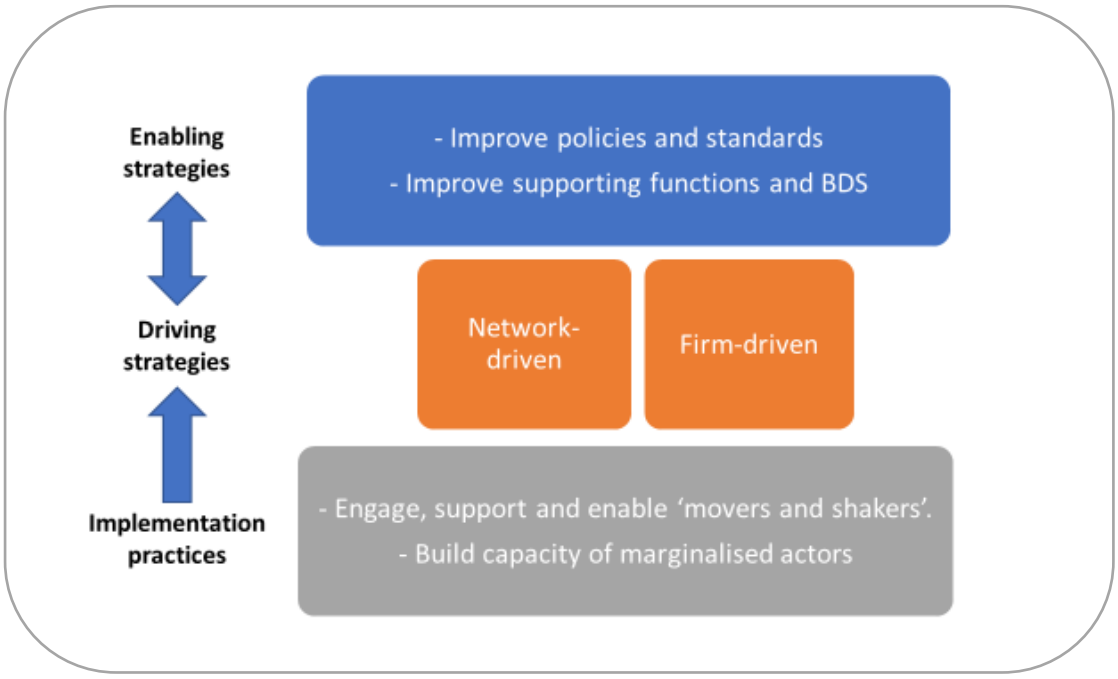


Figure 9. Scale-up strategies and practices most commonly used in MSD programmes.

The following sections provide more details about the two driving strategies (network- and firm-driven). They include, examples about how the enabling strategies and the implementation practices are used. There is also a section dedicated to policies and standards because of their critical role in the creation of expectations that contribute to new behaviour

Network-driven scale-up: Piloting and scaling up business models

This is the most common scale-up strategy in MSD programmes. "[They] often start by partnering with a small number of market players, in order to introduce a new business model [...] Private sector development programmes often expect other businesses, individuals, or market players to replicate the new behaviour or business model tested in the pilot stage. This replication can take place at different levels in the value chain." DCED (2014, p. 7).

[19] This is a broad term that includes innovators, early adopters, early majority and late majority (see "innovativeness of individuals" section for definitions).

A network-driven strategy has multiple stakeholders and perspectives, and multiple nodes of power, influence and leadership. Stimulating scale-up through this strategy requires skilful facilitation, sustained multi-stakeholder interactions, and participatory methods to enable co-creation of solutions, negotiation and compromise.

Case 1. Propcom Mai-karfi: Convening market actors to reach scale

Propcom Mai-karfi aims at reducing poverty levels of half a million people in northern Nigeria, half of which are women. It works with government, the private sector and businesses to increase incomes for the poor through enhanced employment opportunities and improved productivity in selected agricultural and rural markets. (Propcom n.d.).

The program uses a portfolio approach; working on a variety of market systems or subsectors, such as poultry, soybean, shea kernels and rice. It also works on cross-sectoral, inputs and services markets, such as financial services to increase use of tractors and power tillers, fertiliser and livestock feed. (Propcom 2018).

A network-driven strategy was explicitly used in some of the market systems that the programme focused on. For example, regarding the shea kernels market, Propcom identified and engaged potential new processor and buyer partners and helped them build supply networks directly with women's groups in rural areas. The programme also "improved the quality of shea kernels through capacity building support to procurement officers recruited by processors and buyers, who then trained women producer groups" (Lopez-Gomez et al. 2016, p. 4).

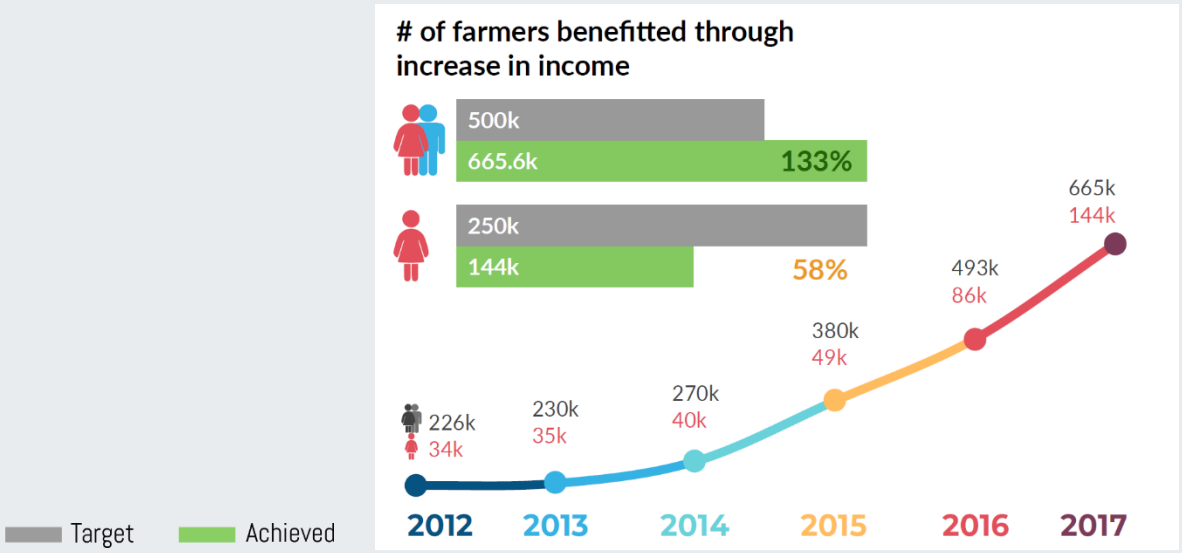
In the case of the tractor market, according to Posthumus and Wanitphon (2015, pp. 2), Propcom found that tractor vendors were mainly selling to the central and state governments, rather than tapping into the potential demand in the private sector. The programme thus aimed to develop a private sector-led tractor market in Nigeria by supporting the creation of innovative financing mechanisms and marketing systems for tractors, assisting the government to review existing policies to make them more conducive to private sector actors, and strengthening the tractor owners and operators' associations to lobby and offer skills training for their members.

The programme forged partnerships with a bank, a tractor vendor and two associations of tractor service providers to pilot a tractor-leasing business model that works as follows: the bank provides loans to association members so that they can procure tractors from tractor vendors; the owners then lease out the tractors to tractor operators who move around the country to provide services to smallholder farmers. The farmers pay rent to the tractor owners who then pay off the bank's loan (Azam 2018).

Posthumus and Wanitphon (2015, pp.3) explain that "the agreement included three important safety mechanisms. All tractors were provided with GPS tracking systems. These allowed the owner to track his operator (and ensure all fees were paid) and also enabled the bank to know the whereabouts of the tractor. Secondly, a default buffer deposit fund was created as a safeguard for the lessor to recover costs in case of defaulting tractor lessees. Thirdly, a buy-back guarantee was provided by the tractor vendor to the lessor in case of defaulting lessees".

The pilot – they add - was instrumental in triggering more banks and tractor vendors to start offering similar tractor leasing services. "In order to promote this 'crowding in' of other market players, this intervention aimed to demonstrate to the Government of Nigeria that leasing tractors is a viable business but that it is hampered by unfavourable credit risk guarantees set by the financial sector regulators".

Propcom claims that, between 2012 and 2017, the tractor-leasing model contributed to the leasing of 471 tractors that benefited 156,000 farmers (14% of which are women), including savings of £10 million[20]. The programme also shows a sustained increase in the number of farmers benefited:



Propcom Mai-karfi is a good example of scale-up that starts with a pilot business model, facilitated by the programme but driven by a network of market actors where leadership and decision-making power are distributed – not necessarily in equal measure- across more than one market actor; for instance, the bank and the tractor vendor. In this case, the pilot must work to create demonstration effect and stimulate crowding-in.

It is also interesting to see how Propcom combines a network-driven strategy (the leasing business model) with an enabling strategy (financial policy change) and an implementation practice (building capacity of marginalised actors) to stimulate scale-up.

[20] Figures obtained from an infograph produced by DFID and Propcom that shows aggregated results of the programme. At the time of writing, the infograph was not available online; it was kindly provided by Mr. Nur Azam, Propcom's Senior Results Measurement Manager.

Firm-driven scale-up: Supporting a single business to grow

Sometimes pilots are required "to learn something or prove a concept, mitigate risk or initiate a process. [But] piloting also costs money and time, adds steps that may fail and may not fit the structure of a sector" (Wilson 2016).

In this strategy, the programme focuses directly on the **response** component of the crowding-in phase, skipping the pilot phase altogether, and **facilitating the expansion of a business that requires a minimum scale or critical mass for it to succeed**.

It is possible to argue that this strategy is appropriate and stands a good chance of success when the business has the potential of benefiting large numbers of people on its own and there is, or could be, a high degree of vertical integration between the lead firm and other actors up and down the chain.

Case 2. MarketMakers[21]: Enabling a lead firm to grow

This youth employment programme operating in Bosnia and Herzegovina "skipped the pilot and went directly for scale" (Wilson 2016). It exploited an unexpected opportunity presented by an experienced entrepreneur who wanted to create a hub to bring together IT companies from Sarajevo under the same roof and promote public-private dialogue around IT. The idea included also an IT academy, an incubator and a co-working space, so that freelancers and start-ups could be in the same space with more seasoned entrepreneurs.

The programme team knew enough about the sector to make an informed decision. They took the risk when the entrepreneur proposed the idea. The team provided significant technical support to produce robust business plans and invested 50,000 Euro to help relevant companies cover some of the costs of moving into the Hub. This helped to "crystallise the concept [and] lent credibility to the initiative". Eventually, other donors joined the initiative.

In less than a year, the Hub was full. Then, it "spilled over" into a nearby abandoned building and shopping mall. By 2016, there were plans in place to build new facilities to keep on expanding.

The programme started noticing some spontaneous changes that they thought were going to require additional interventions. For example, increased awareness between young people about IT as an attractive career choice. This could have been the result of more than a thousand students trained by the IT academy sharing their experiences with friends, and a "clever use" of formal and social media.

With increased visibility in the media, politicians started to catch on, motivated by the political opportunities (e.g. re-election) that an initiative like this had due to its potential to create jobs for young people in a context with high unemployment rates. This motivated politicians to engage in a productive dialogue with IT professionals and gain a better understanding of the importance of IT for the region. "Within a few months IT was declared a

[21] This example was presented by Andrew Wilson (2016) from Helvetas Swiss Intercooperation at the BEAM Conference in 2016.

strategic sector [...] by two different levels of government".

Wilson claims that, by 2016, the programme had increased technology employment in the country by 5% but he thinks that "this is just the tip of the iceberg". However, further job creation and other changes showing how the market system is responding to the growth and dynamism of the IT Hub – for example, legislative change, will take more time.

The Hub model is also replicating – not in Bosnia and Herzegovina, but in Croatia, and neighbouring countries which are already showing interest. This could be due to the fact that Bosnia and Herzegovina is a country with relatively small cities. For example, Sarajevo has less than half a million inhabitants. "It wasn't really that realistic that we would get a lot of expansion inside Bosnia [...]", claims Wilson.

The example of MarketMakers provides the following three lessons:

First, if it is the success of a business model that is supposed to drive structural changes in the market system and this depends on economies of scale and network effects, it is very likely that the programme needs to bypass the pilot phase and go directly to the crowding-in phase. The IT Hub concept needed to be large from the very beginning to offer value to companies. No typical IT company would join a cluster with just a few other companies; they join partly because of the possibility of interacting with a large number of other companies and experts.

Second, going directly into the crowding-in phase is riskier and more demanding than starting with the pilot phase (something confirmed by Davies 2016). This is why the programme must rely on extremely committed and capable collaborators – which are also hard to find. In the case of MarketMakers, it was a "visionary leader" with enough funds to invest and who came to the programme with the right idea at the right time (the programme knew enough about the IT sector to assess the risks quickly and had the flexibility to embark in this venture).

Third, as the business that drives systemic change expands, it is very important for the MSD team to create a reinforcing dynamic between media exposure (both formal and social media) and government involvement and support. According to Wilson, this caused the most important changes in MarketMakers.

Improving institutions, policies and quality standards

In this strategy, the programme prioritises work to "change rules or regulations through government or other non-private actors" (DCED 2014, p. 9). Here, the rationale is that changes in policies and formal norms create an environment that enables behaviour change and adoption of new ideas and technologies.

An example of policy-driven behaviour and technology change comes from the Market Assistance Programme; a multi-donor funded programme managed by the Kenya Markets Trust (KMT). It works across different sectors, including water. In this case, KMT "is not bringing water directly to the people, which in practice would mean working directly on the water point.

Instead, the team intervenes at a higher level, for example, by changing policies [e.g. accountability and liability norms, and water-quality standards], and promoting the participation of the private sector in water access." (Osorio-Cortes et al. 2013, p.7). However, this is a difficult strategy for MSD programmes with limited budget, time or connections with influential policy-makers and politicians.

For instance, the Market Development Facility considered a policy-driven strategy in Fiji in a programme to improve agricultural markets. Back in 2015, Jalil and Bekkers (2015, p. 18) stated the following about their efforts in this front:

> "[M]arket actors, norms and interests are still emerging. Bodies like the Fiji Crop and Livestock Council and Tei Tei Taveuni (TTT) have shown they can influence government policy and actions however, for both these associations, either their scope remains narrow or more acceptance is required from the market in terms of representation. For MDF it makes sense to wait for a period (12 to 18 months) to identify the right partner to work with. As the situation stands now, policy-related work will likely require a long-term strategy to create sustainable impact."

It is also important to remember that MSD programmes must pay attention not only to the change in policy but also to the processes, networks (from the most formal of institutions to the most informal of groups) and coalitions (from formal partnerships to lose coordination) that shape and enforce policies. This means that business membership organisations (BMOs), public-private partnerships (PPPs), agricultural research centres, natural resource management committees and any other group interested in the construction and protection of public goods are important actors in this strategy.

Social norms

Special mention must be made of social norms; which is part of the 'rules' component of the MSD market system model (Fig. 2), together with formal policies and standards.

According to Alexander-Scott, Bell and Holden (2016, p. 6), "[s]ocial norms are shared beliefs about what is typical and appropriate behaviour in a valued reference group. They can be defined as a rule of behaviour that people in a group conform to because they believe: (a) most other people in the group do conform to it; and (b) most other people in the group believe they ought to conform to it".

Lessons learned about social norms in the microfinance field in the 80s and 90s have informed MSD programme design and implementation, but the systematic study and strategic leverage of social norms in MSD has been spurred mainly by programmes aimed at the economic empowerment and financial inclusion of women.

Research done by Markel et al (2016, p. 6), "suggests that there are two main categories of strategies and tactics that programmes implement to address social norms: indirect and direct".

MSD programmes that use indirect strategies – also called *norm-aware* interventions (Burjorjee et al 2017, p. 2), are currently the most common. They try to deal with social norms by navigating them, working within their constraints and using them to their advantage. They "do not attempt to address social norms [...] 'head-on', and instead design interventions that change systems and relationships, leading to shifts in key social norms over time" (Market et al. 2016, p. 6). One example is the Sierra Leone Market Development Programme, funded by DFID and managed by Adam Smith International, where "as women upgraded the types of work they did within the market system, they were able to renegotiate the time they spent on unpaid care work" (Miller and Markel 2016, p. 10).

Conversely, MSD programmes that use direct strategies – also called *norm-transformative* are less common (Burjorjee et al., p. 2 and Markel et al., p. 6). They "explicitly work to change social norms through direct engagement of men, women, and the broader community [...]" (Burjorjee et al. 2017, p. 2). One example is CARE's Strengthening Dairy Value Chains project in Bangladesh, which "took a 'positive discrimination' approach to select more women participants during [its] first phase". This gave women a chance to demonstrate that they could be "more successful than their male counterparts in the value chain and were also able to change their own lives" (Jones 2016, p. 11).

Talking about shifting social norms to tackle violence against women, Alexander-Scott et al. (2016, p. 4), state that despite some progress, "the evidence base on what works to tackle social norms that drive violence is at an early stage in scope and scale". They explain that this is the case because "until recently, very few programmes have used social norms theory to guide programme development [and that] there has been a lack of consensus on the key metrics with which to measure social norms change [...]". This explanation also applies to norm-transformative MSD interventions.

There are two more reasons that help explain why, in MSD programmes, norm-transformative interventions are expected to continue being less common than norm-aware ones: First, changing social norms is a means to the ultimate MSD end, which is "intervening in market systems so that they function more efficiently and sustainably for poor women and men" (The Springfield Centre 2015, p. 3). Second, despite some progress in programme design and implementation, norm-transformative interventions "have major implications for programming costs, timeframes, and scalability—all of which can discourage more investments into these types of programs" (Burjorjee et al., p. 2).

Reality check: hybrid strategies and adaptive management

The strategies and practices identified in the sections above are a model of what most MSD programmes do in their efforts to achieve scale. In most cases, however, the structure of the market systems or sub-systems that MSD programmes target is such that a pure firm-driven or network-driven strategy is not enough to stimulate structural, scalable transformations. Navigating this messy reality requires a combination of strategies, purposeful experimentation,

constant learning and adaptation. MSD programmes and donors are increasingly aware of this; however, only a few manage to do this effectively. This is reflected in the fact that the evidence of scalable and sustainable impacts still appears to be weak or dubious and both independent and ex-post evaluations are hard to come by (Robinson and Rust-Smith 2017, p. 16).

According to a study of 26 interventions from 11 MSD projects done by Keddie et al. (2016, p. 13), "a considerable proportion of project intervention strategies had objectives and targets limited to achieving [adoption], rather than aiming for impact at scale [through adaptation and/or expansion]". Robinson and Rust-Smith's (2017, pp. 6, 22) analysis of systemic changes in six MSD programmes that produced "high confidence" evidence of impact confirms Keddie et al.'s conclusion. They also found that the second most common systemic change process was expansion; that adaptation and response were equally scarce; and that "there was a prevalence of interventions in supporting functions to the core market [...], such as skills/ human capacity, and access to information".

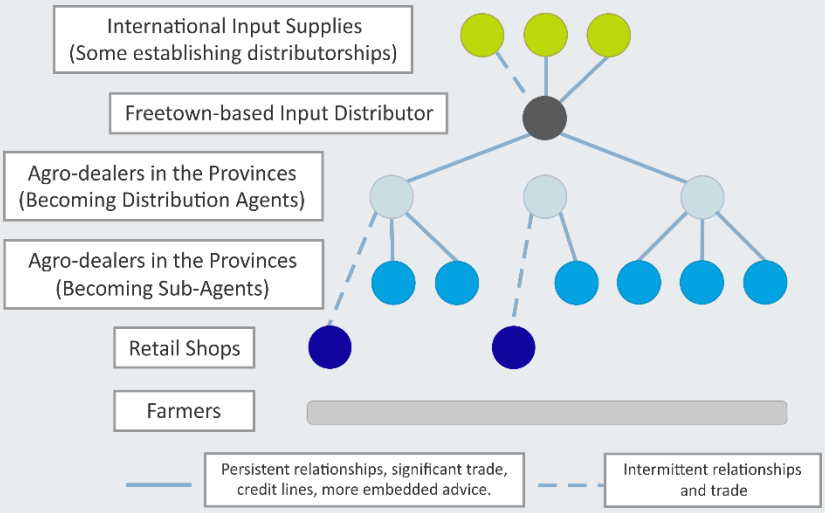
The following example seems to be one of those exceptions where all four processes (adopt, adapt, expand and respond) are visible.

Case 3. SOBA: Blending strategies and adapting to reach scale

The Sierra Leone Opportunities for Business Action (SOBA) programme addressed the challenges of low agricultural productivity, reliance on imports and malnutrition across the country. The team knew that fertiliser subsidies from the government were distorting the market at the provincial level and contributing to a fragmentation of commercial distribution networks.

Provincial agro-dealers would purchase fertiliser from recipients who preferred to sell their allocation rather than to use it or procure it illegally through the government programme. Consequently, there were no incentives for Freetown-based input distributors to trade with provincial agro-dealers or expand their operations to reach out to more farmers. This contributed to shortages of good quality fertiliser, seeds and crop protection inputs, and limited technical advice for farmers.

The programme's scale up strategy focused on improving the effectiveness of Freetown-based distributors to leverage change up and downstream. This involved (i) building the capacity of these lead firms to deploy effective distribution strategies targeted to smallholder farmers, namely in areas of inventory management, accounting and financial planning, marketing and human capital; (ii) co-investing in their distribution networks and setting up agro-dealer programmes; (iii) providing technical assistance; and (iv) attracting interest from international input suppliers to bring new products and improved agronomic information and technical assistance. The following is an illustration of SOBA's vision for the structure of the agri-inputs market:



ADOPT: In 2015, SOBA partnered with TJAL Enterprises, a relatively small but "enthusiastic first-mover" to develop an agent distribution network. TJAL expressed eagerness to innovate and expand investment in Sierra Leone but they lacked the necessary set of skills. In the first phase of partnership, SOBA provided Business Development Services to TJAL to help them address challenges related to basic financial management, inventory control and recordkeeping.

After a year, TJAL showed remarkable improvements and SOBA helped them launch an agent distribution business model that proved to be "highly successful" at building stronger commercial relationships amongst market actors and delivering affordable and appropriate inputs to farmers.

SOBA continued providing TJAL with technical assistance and BDS to improve their marketing plan, customer relationship tools, delivery processes, forecasting capabilities to deal with seasonality and manage inventory, human resources management and organisational culture.

ADAPT: "TJAL now has a national network of 32 agents and 224 sub-agents and independent retail shops taking increasingly large credit lines to trade quality fertiliser, seeds and agro-chemicals. The network serves an estimated 40,000 smallholder farmers. It has grown its monthly sales – primarily fertiliser – from USD 1,750 in June 2015 to USD 174,000 in June 2017".

EXPAND: Distributors who previously only focused on Freetown-based contracts began taking "keen notice of the rapid rise of TJAL from a small two-shop outfit to the largest agro-dealer network in the country" and are now proactively investing to service smallholder farmers themselves.

As of the first half of 2017, the number and quality of relations, transactions, exchanges of information and provision of technical advice between distributors and agro-dealers have improved. TJAL and a competitor (SeedTech) have established wholesale shops in major centres outside of Freetown and agents downstream are "investing to strengthen their relationships with their resellers, who in many cases are becoming sub-agents, receiving credit [and embedded services] through their dealers".

RESPOND: International companies like Hazera and Technisem are responding to these changes through collaboration with and investments in local distributors like Nianda and TJAL. "As a result, crucial inputs previously unavailable in Sierra Leone [such as hybrid seeds, fertilisers and technical training to

distributors, dealers and government extension agents] are now available. Moreover, as the networks of dealers strengthen, these new inputs are [reaching] smallholder farmers faster than ever before".

Collaboration between international suppliers and national distributors has also manifested in the implementation of a growing number of plots to demonstrate the appropriateness of hybrid seeds for cabbage, carrots, watermelon, onions, peppers and herbs.

Capacity building: SOBA noticed that the limited organisational capacity of provincial agro-dealers was slowing down the process of growing TJAL's agent distribution network and strengthening the capacity of the sector as a whole. To address this, SOBA launched the Agro-dealer Development Programme to offer these relatively weak actors in TJAL's agent network direct BDS support, particularly in the areas of bookkeeping, branding, marketing and product training, and running demonstration and information events with farmers. This was an important strategic shift where SOBA widened the scope of their support from only/mainly the distributors (lead firms) to include agro-dealers as well.

Policy change: Since 2016, SOBA has been helping the Ministry of Agriculture, Forestry and Food Security (MAFFS) to explore alternatives to the current Government's fertiliser subsidy programme. The programme "ran a pilot 'smart subsidies' scheme whereby 2,063 targeted farmers received coupons for fertiliser, mainly through private agro-dealers in TJAL's agent network. The pilot was completed in 2017 and showed that approximately 94% of farmers redeemed them. SOBA will present the results and lessons from the pilot to MAFFS to contribute to the policy debate.

Source: Adam Smith International (2018)

SOBA is a good example to show how programmes can combine all the strategies and implementation practices identified earlier in real conditions. Their target was a distribution network that revolves around TJAL, a distributor based in the capital city. This is in fact a hybrid sub-system where the influence of TJAL on the whole network is clear but limited because agro-dealers in the provinces can buy from TJAL's competitors. When the reality and challenges of a hybrid structure became evident, SOBA adapted their strategies to directly and quickly build the capacity of the weaker provincial agro-dealers (not just that of TJAL).

The provision of technical assistance and BDS to a keen and dynamic first mover like TJAL allowed SOBA to demonstrate the benefits of this new business model. It was not long before TJAL competitors (second movers) started to crowd the market in.

Finally, knowing that the strong distortions produced by the government's fertiliser subsidy programme were one of the root causes of market dysfunction, SOBA started working with MAFFS to build evidence about the benefits of smarter subsidy schemes with the hope of kick-starting and contributing to a much-needed policy change.

Diffusion of Innovations (DOI) theory

As shown earlier, market dynamics are deeply influenced by the interaction between the behaviour of individual actors and the patterns and institutions that emerge out of the interactions amongst large numbers of actors (see fig. 1). This means that an appropriate theory to understand scaling up of behaviour change in market systems must be able to accommodate as best as possible individual actors' **cognition** (i.e. how each one of them makes sense of the world around them); the **relationships** between them and the importance of contextual forces and **structures** (both in terms of how they affect the market actors' behaviour and how they can shape them).

After a revision of theories and models that seemed relevant for MSD[22], Rogers' Diffusion of Innovations (DOI) model appears to be the most appropriate one to build a conceptual bridge between MSD and behavioural sciences, mainly because of the following characteristics:

- **DOI is robust:** Despite being a relatively old theory (1960s), DOI has withstood the test of time and continues to be one of the most influential theories in diffusion research.
- **DOI is generalisable** (to a large extent) and applicable to many different fields, including MSD: "Studies have explored many characteristics of innovations. Meta-reviews [such as the one done by Greenhalgh et al. (2004)] have identified several characteristics that are common among most studies. These are in line with the characteristics [of DOI]" (Wikipedia n.d.).
- **DOI is broad:** its focus goes beyond technological innovation and adoption of technologies. It can be adapted to adoption of new behaviour and practices.
- **DOI is compatible** with the networked nature of markets: Darnton (2008, p. 3) classifies DOI under the category of theories of change via social networks (together with Network Theory, Social Capital Theory and Gladwell's 'mavens', connectors and salesmen[23]).
- **DOI is comprehensive** and systemic by nature: it recognises the importance of individuals, networks, organisations, relationships, context, space/geography, time, channels of information, etc. In fact, most of the issues that MSD is concerned about.
- **DOI can be complemented** with other theories: It can be enriched and adapted to the needs of MSD without requiring major, structural changes.

DOI theory[24] focuses on how innovations (i.e. ideas, practices or technologies that are perceived as new in a given context) spread through a system in a specific time and space (Rogers[25] 1995). DOI research helps to understand behavioural and social change processes more accurately "if

[22] For example, theories and models focusing on suicide or drug addiction were discarded.

[23] Gladwell's work, published in his book The Tipping Point, was heavily influenced by that of Roger's.

[24] Also called a "model" (e.g. Rogers et al. 2005 and Rogers 1995, p. 98), an "approach" and a "paradigm" (Rogers 1995, p. 98).

[25] Rogers (1995) provides the key elements that constitute this section. It is cited abundantly. Therefore, when only page numbers are specified between parentheses, it means that this reference was used.

the spread of an idea is followed over time as it courses through the structure of a social system" (p. 98).

Roger's study on the diffusion of innovations, first published in 1962, contributed – firstly, to the recognition of the previously "invisible" cliques of diffusion researchers that, throughout the 20th Century, had been studying diffusion in different sectors, such as agriculture, education and health, and – secondly, to the convergence of diffusion research under a coherent paradigm that continues to evolve today. (pp. 38-39).

Characteristics of innovations that contribute to their adoption

The following are key characteristics of innovations that help to explain how fast they are adopted by individuals (adapted from Rogers 1995, p.15 and LaMorte 2016):

- Relative Advantage: The degree to which an innovation is perceived as better than the one it replaces.
- Compatibility: The degree to which an innovation is perceived as consistent with the values, experiences, and needs of the potential adopters.
- Complexity: The degree to which an innovation is perceived as difficult to understand and/or use.
- Trialability: The degree to which an innovation can be tested or experimented with before a commitment to adopt is made.
- Observability: The degree to which the results of an innovation are visible and understood by others.

Note here that the perception of potential adopters is more important that objective reality or the perceptions of external change agents. "Innovations that are perceived by individuals as having greater relative advantage, compatibility, trialability, observability and less complexity will be adopted more rapidly than other innovations [keeping everything else equal]" (p. 16).

Communication and communication channels

Diffusion is in essence a communication process "in which the message content that is exchanged is concerned with a new idea" (p. 17). "A *communication channel* is the means by which messages get from one individual to another". There are two main types of channels: mass media and interpersonal (or face-to-face between two or more individuals) channels (p. 18).

"Mass media are often the most rapid and efficient means to inform [a relatively large] audience of potential adopters about the existence of an innovation [whereas, interpersonal channels are more effective at persuading an individual to accept a new idea, especially if the interpersonal channel links two or more individuals who are similar [...]" (p. 18). The idea of difference or similarity between individuals is called homophily and heterophily, respectively.

"Homophily is the degree to which two or more individuals who interact are similar in certain attributes, such as beliefs, education, social status, and the like". People have a tendency to interact with others who are similar to them. This similarity makes their communication more effective and rewarding (p. 18). However, innovation usually has to happen between two or more people who are different in one or more relevant aspects; normally their knowledge and mastery of an innovation. "In fact, when two individuals are identical regarding their technical grasp of an innovation, no diffusion can occur as there is no new information to exchange" (p. 19).

An ideal combination of homophily and heterophily that would maximise diffusion would be two individuals who are different only regarding their technical knowledge and mastery of an innovation but equal in all the other variables (p. 19).

Case 4. When diffusion is hampered because "they are not like us"

The Operational Guide for the M4P Approach provides an example of "[a] programme in East Africa [that] used a lead farmer model to promote better farming practices. The 'best' farmers were identified and selected to take part in pilot interventions. These tended to be farmers with access to more resources, including finance and information. The programme found that the influence of these farmers was limited. The wider community felt these farmers were 'not like them' and that they were therefore unable to farm like them" (The Springfield Centre 2015, p. 32).

A systematic review of 92 impact evaluation studies and 20 qualitative studies on Farmer Field Schools (FFS) in Low- and Middle-income Countries (Waddington and White 2014, pp 20-21) shows that participant farmers benefit with improved knowledge and practices that increase yields and profits and reduce pesticide use. However, "[t]here is no convincing evidence that [...] field schools offer sustained diffusion to [non-participant] neighbouring farmers who live in the same communities as field school graduates". The authors argue that in some cases like Indonesia, socio-economic differences between these two groups explain why diffusion does not happen.

Innovation-decision process

The innovation-decision process (pp. 169-203) is basically the process through which an individual (or any other decision-making unit) passes; from the moment they know about the innovation to the moment they confirm or reject the adoption. Rogers (p. 162) describes it using the following stages:

- Knowledge: when an individual is exposed to an innovation's existence and gains some understanding of how it functions.

- Persuasion: when an individual forms a favourable or unfavourable attitude towards the innovation.
- Decision: when an individual engages in activities that lead to a choice to adopt or reject the innovation.
- Implementation: when an individual puts an innovation into use. This stage includes the process of re-invention, which is "the degree to which an innovation is changed or modified by a user in the process of its adoption and implementation. Re-invention is part of the adaptation process (Adapt) described by the AAER model described earlier.
- Confirmation: when an individual seeks reinforcement of an innovation-decision already made or reverses a previous decision to adopt or reject the innovation if exposed to conflicting messages about it.

These stages are similar to the ones proposed by the Transtheoretical Model of Health Behaviour Change, also known as TTM (Prochaska et al. in different publications cited by Lefebre 2000, pp. 10-11 and Rogers 1995, pp. 189-191):

- Precontemplation: people are aware of the problem and begin to think about overcoming it but are not intending to take action in the foreseeable future.
- Contemplation: people indicate that they are planning to change their behaviour.
- Preparation: people indicate that they will take action in the near future and have a plan of action.
- Action: people have made specific behavioural changes.
- Maintenance: people in this phase are working at preventing relapse and use different processes and strategies to help them maintain their changes.
- Termination: people in this stage are sure they will not return to their old behaviour or habit.

TTM assigns specific time ranges to each stage (e.g. people are contemplating a change if they are thinking of making that change within the next six months).

Besides these stages, TMM also considers the *processes* that people use to progress through these stages, as well as other aspects, such as *temptation* to stick with a habit and how people consider *pros and cons* of change.

TTM has been designed for and used in the public health sector, for example, to increase physical activity levels or quit smoking. The application of TMM to the market systems development field is not totally straightforward but the popularity and usefulness of the model's stages (Lefebvre 2000, p. 9) reinforces the idea, already identified by Rogers in his Diffusion of Innovation work (p. 189): that "an individual must pass from knowledge change to behaviour change in a cumulative sequence of stages [...]". However, it is also true that people can regress to earlier stages (Prochaska and Velicer 1997, p. 39). The key is to gain a better understanding of the processes, drivers, barriers and enablers involved in the transition between stages so that regression is minimised.

Innovativeness of individuals

One of most well-known aspects of Rogers' DOI theory is the classification of individuals under the following categories (adapted from Rogers 1995, pp. 22 and 26, and LaMorte 2016):

- Innovators: People who want to be the first to try an innovation. They are venturesome and interested in new ideas. They are very willing to take risks and are often the first to develop new ideas. They tend to have a high degree of mass media exposure and their interpersonal networks are broader than those of other less innovative people, reaching out beyond their local system. Very little, if anything, needs to be done to appeal to this population. However, precisely because of these characteristics, innovators can be perceived as outliers with low credibility, which hampers their capacity to convince others to follow them. For innovators' ideas to spread, they require the help of early adopters.
- Early Adopters: People who "have the greatest degree of opinion leadership in most systems" (p. 264). They are role models who enjoy leadership roles and are respected by their communities. They are already aware of the need to change and are very comfortable embracing change opportunities and adopting new ideas. They are at the centre of interpersonal communication networks. "The early adopter is considered by many as 'the individual to check with' before using a new idea [... They decrease] uncertainty about an idea by adopting it, and then conveying a subjective evaluation of the innovation to near-peers through interpersonal networks" (p. 264). Their leadership and influence on others is earned and maintained by their technical competence, social accessibility and some level of conformity to the system's norms and expectations, which, in turn entails making judicious innovation-decisions that are not seen as threatening or too subversive. Strategies to appeal to this population include how-to manuals and information sheets on implementation. They do not need information to convince them to change.
- Early Majority: People who are rarely leaders, but they do adopt new ideas before the average person. That said, they typically need to see evidence that the innovation works before they are willing to adopt it. Strategies to appeal to this population include success stories and evidence of the innovation's effectiveness.
- Late Majority: These people are sceptical of change and will only adopt an innovation after it has been tried by the majority. Strategies to appeal to this population include information on how many other people have tried the innovation and have adopted it successfully.
- Laggards: People who are bound by tradition and very conservative. They are very sceptical of change and are the hardest group to bring on board. Strategies to appeal to this population include statistics, fear appeals, and pressure from people in the other adopter groups.

Rogers' categorisation of adopters is represented in this graph:

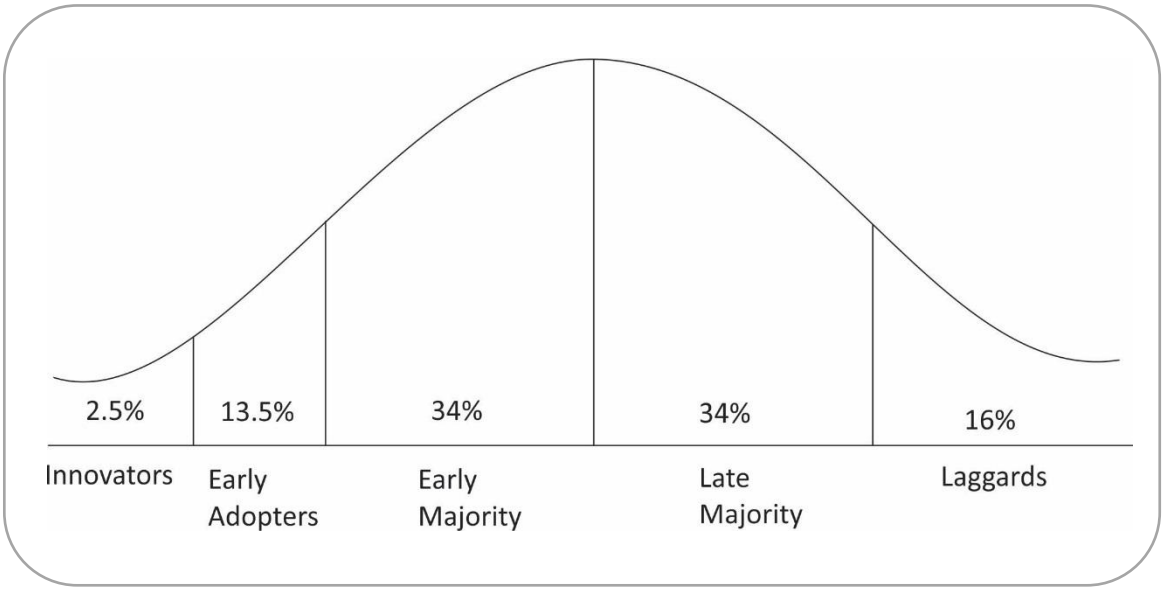


Figure10. Adopter categorisation on the basis of innovativeness (Rogers 1995, p. 262).

Rate of adoption

"The rate of adoption is usually measured by the length of time required for a certain percentage of the members of a system to adopt an innovation [...] Most innovations have an S-shaped rate of adoption. But there is variation in the slope of the 'S' from innovation to innovation: [the faster the diffusion, the steeper the slope [...] There are also differences in the rate of adoption for the same innovation in different social systems" (p. 23). The following is a representation of this property:

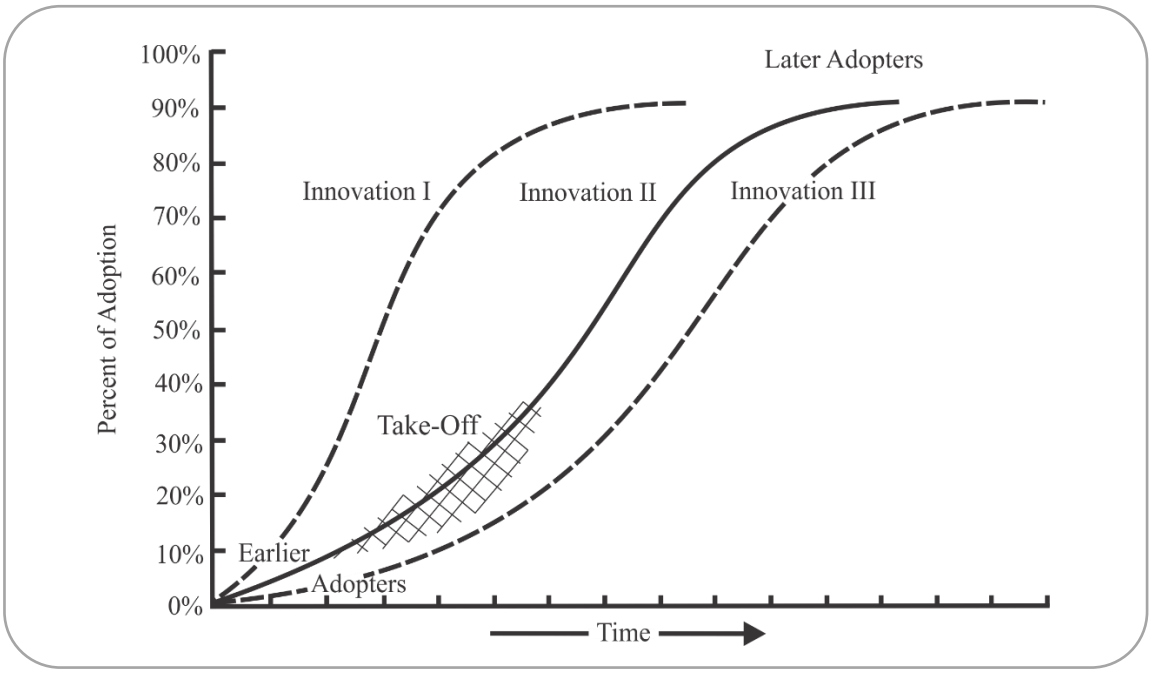


Figure 11. Rate of adoption for three different innovations in the same system (Rogers 1995, p. 11).

Social system

A social system is "[a] set of interrelated units [e.g. be individuals, informal groups, organizations, and/or subsystems] that are engaged in joint problem-solving to accomplish a common goal [...] This sharing of a common goal is what binds the system [or subsystems] together" (pp. 23-24).

Rogers (pp. 23-28) highlights three important aspects of a social system:

- Structure (pp. 24-25): It is "the patterned arrangements of the units in a system". It increases regularity, stability and predictability of human behaviour. There are formal (visible/bureaucratic) and informal (invisible/social) structures. They can facilitate or impede the diffusion of innovations in a system.
- The application of structure in diffusion research in general, and in MSD in particular is relatively new (see case 5 below). It is also difficult to put in practice because of the invisibility of some relationships (to an external researcher) and because people are not always fully aware of (or can't properly explain) the influences that these relationships have on their decisions to adopt or reject an innovation.
- Norms (p. 26): They are "the established behaviour patterns for the members of a social system. They define a range of tolerable or expected behaviour and serve as a guide or a standard for the members' behavior in a social system".
- Actors (nodes, individuals or adoption units): In Rogers' work, the emphasis is on opinion leaders[26]. However, opinion leaders are early adopters, which were already described above. Exclusive emphasis on opinion leaders underplays the importance that the other types of system actors have in defining the identity of a system's structure. Therefore, this review proposes the broader category of actors.

Case 5. Application of Organisational Network Analysis: Measuring a systems' structure

In 2015, LINC "conducted an Organizational Network Analysis (ONA) of workforce development systems in [Nicaragua]. The research was undertaken to better understand how various workforce development actors and functions interrelate, informing future program strategy and design efforts in support of the sector".

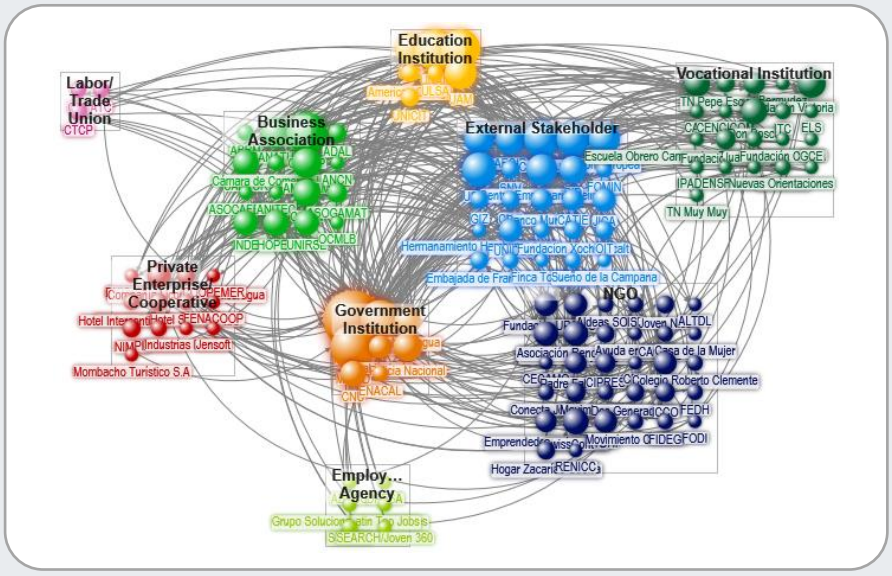
Through this analysis, LINC found out that "the workforce development network was [diffuse] with an overall lack of coordination, lack of dominant actors, ease of access across

[26] Change agents are also mentioned and defined by Rogers (p. 27) as individuals who influence clients' innovation-decisions in a direction deemed desirable by a change agency. In the context of MSD programmes, change agents are MSD practitioners or facilitators and, by definition, not a part of the system. "Change agents use opinion leaders in a social system as their lieutenants in diffusion campaigns" (p. 28).

functional groupings and numerous opportunities for network development. They could also "see a significant degree of resilience in the network, with no single actor or groupings of them seemingly capable of network disruption". Their findings "indicate[d] that workforce development networks organized around specific sectors [such as construction and tourism] are significantly stronger than those of the overall network".

Using data like number of nodes or actors and actual connections between them, network analysis can provide information about the structure of the system, such as density, closeness, reciprocity, centrality and betweenness, which can inform MSD strategies and interventions. For example, LINC could detect the need for more investment towards increasing the influence of employment agencies, and the connectivity between business associations, vocational institutions and employers, to name just a few recommendations.

The following is a network map of one of the regions in Nicaragua studied by LINC:



Source: Sommerville et al. (2015).

Criticisms of DOI Theory

Diffusion of Innovations has proven to be quite a useful and versatile theory; "[it] has been applied to numerous contexts, including medical sociology, communications, marketing, development studies, health promotion, organizational studies, knowledge management, and complexity studies [...]" (Greenhalgh et al. cited in Wikipedia n.d.).

However, like with any other theory, DOI has limitations and criticisms. For example, that diffusion is difficult to quantify, and its causes are hard to detect and define (Damanpourt 1996, cited in Wikipedia n.d.); and that the capacity of DOI theory to predict and explain how innovations (including new behaviours) scale up depend on the type of context or system (Plesk and Greenhalgh 2001) and the type of innovation (Lyytinen and Damsgaard 2001).

Rogers (1995, pp. 99-130) identified four main types of criticisms and weaknesses of DOI theory:

Pro-innovation bias: "[It] is the implication [...] that an innovation should be diffused and adopted by all members of a social system, that it should be diffused more rapidly, and that the innovation should be neither re-invented nor rejected" (p. 100). This presents a challenge to any study or literature review about diffusion of innovations and scaling up because the innovations that are researched and documented are those that look successful, are spreading fast and are being continued; not those that are spreading slowly or failed to spread, or those that were rejected and discontinued. This is "understandable from the viewpoint of financial, logistical, methodological, and policy considerations. The problem is that we know too much about innovation success, and not enough about innovation failures" (p. 105). One of the recommendations that Rogers makes to overcome pro-innovation bias is to "investigate the broader context in which an innovation diffuses, such as how [...] policies affect the rate of diffusion, how the innovation is related to other innovations and to the existing practice(s) that it replaces, and how it was decided to conduct the R&D that led to the innovation in the first place" (p. 109).

The individual-blame bias: "[It] is the tendency to hold an individual responsible for his or her problems, rather than the system of which the individual is a part"[27] (p. 114). The other side of the coin is what Rogers calls "system-blame", which is frequently underestimated (p. 115). Individual-blame bias influences how social problems are defined and how people try to solve them (pp. 115-117). There is an important implication of the individual-blame bias for MSD programmes regarding stakeholder selection and engagement: "[...] a stereotype of later adopters by change agents and others as traditional, uneducated, and/or resistant to change can become a self-fulfilling prophecy". MSD programmes may not engage certain market actors because they perceive them as late adopters who will not contribute to adoption. This deprives them from any information or assistance, which will make them even less likely to adopt (p. 118).

The recall problem in diffusion research: This problem is "caused by inaccuracies when respondents are asked to remember the time at which they adopted a new idea" (p. 129). According to Rogers (pp. 122, 124), diffusion research has relied heavily on "correlational analyses of cross-sectional data gathered in one-shot surveys of respondents [...] when it should be using methods like field experiments, longitudinal panel studies, point-of-adoption studies and case studies with triangulation in order to trace [...] the sequential flow of an innovation as it spreads through a social system". Furthermore, "one-shot surveys can't tell us much about time-order, or about the broader issue of causality" (p. 123). Has a market actor adopted a new behaviour because they are more wealthy or cosmopolitan; or are they more

[27] Rogers does recognise that in some cases, "a social problem might indeed be individual in nature, and any effective solution [...] may have to change [the underlying factors related to the individual]" (p. 115).

wealthy and cosmopolitan because they are more prone to experiment with new behaviours and practices than others?

The issue of equality in the diffusion of innovations: It is often the case that "the diffusion of innovations widens the socioeconomic gap between the higher and the lower status segments of a system" (p. 125). This can occur in any system, but it has been especially noted in developing countries. This is important for MSD programmes because it forces us to ask questions not only about the diffusion process itself but also about the socio-political aspects of innovations in a given context; for example; what criteria guide the choice of innovations and who determine them; how does society's structures influence individuals' decisions to innovate; and what are the consequences of the innovations on people's lives, livelihoods and ecosystems? (pp. 127-128).

Behaviour change in MSD: Key factors for scaling-up

In this section we use DOI theory as a framework to analyse what MSD programmes do to scale-up new behaviours and what is missing from their strategies and execution.

We could identify 13 factors commonly used by MSD programmes that have managed to reach significant levels of scale[28] in different sectors (e.g. agriculture, health, water and sanitation and ICTs).

These factors were classified under six domains as follows:

Table 2. The six domains with related factors.

DOMAIN 1: DESIGN	DOMAIN 2: PERCEPTIONS	DOMAIN 3: BUSINESS MODEL
– Product and service design. – Standardisation.	– Risks and uncertainty. – Barriers to access.	– Costs (of running the business). – Benefits and business sense.
DOMAIN 4: RELATIONSHIPS	**DOMAIN 5: COMMUNICATIONS**	**DOMAIN 6: CAPACITY**
– Trust-based relationships and networking. – Dialogue between market actors. – Dialogue between program team and market actors.	– Communication of progress, results, lessons, evidence of impacts and benefits.	– Capacity to innovate. – Capacity of early adopters and opinion leaders. – Incremental change and learning.

[28] The significance of the scale of impacts produced by MSD programmes is contextual. It must consider the type and magnitude of market dysfunctions that the programmes face and variables like potential number of beneficiaries and population density. Please refer also to the sub-section that defines scale-up above.

The following list is an inventory of the evidence that supports each one of the domains and factors. They are comments, insights, study results, lessons learned and conclusions from MSD literature from different contexts and sectors.

DESIGN

This domain focuses on the characteristics of products or services that enable or hamper their adoption and dissemination. The most commonly mentioned characteristics are **appropriateness, affordability[29], flexibility and standardisation.** The first three are more within the control of individual designers/producers, whereas standardisation is quite social and political, and – therefore- highly dependent on the Relationships, Communications and Capacity domains.

Product and service design

- "Projects should resist over-designing solutions, but instead allow partners to adapt models to the context" (Fowler and White 2015b, p. 3).
- "To reduce side-selling, forward purchase contracts should allow flexibility for farmers to sell some portion of their produce elsewhere" (Fowler and White 2015b, p. 2).
- Propcom Mai-karfi helped banks to design appropriate interest rates and incentives and vendors to increase efficiency of after-sales services (Apuyo 2016).
- "Price indeed plays a key role as to whether or not a household will adopt [a technology]". For most goods, the higher the price, the lower the consumption and vice versa (Whitehouse et al. 2017, p. 5).
- Choose the right product, based on your target market. Consider logistical constraints: "are locally designed [clean cook] stoves available, or is it possible to train local artisans and reach a sufficient level of quality? Would imported stoves be cheaper, even taking into account transportation costs?". Consider also users' needs, preferences, and financial means (SNV n.d.).
- Bundling products and services with different life cycles can help the actors selling expensive and durable products, such as cooking stoves, lower their risks by "ensuring them a more stable income, and allowing a bigger customer turnover for products with a short lifetime". For example, bundling clean cooking stoves with bed nets, anti-malaria treatments, de-worming pills, lightbulbs and seeds (SNV n.d.).

Standardisation[30]

- Quality standards are more likely to be adopted by farmers when associated with price premiums (Fowler and White 2015b, p. 2).

[29] The cost or price of something relative to the amount that the purchaser is able or willing to pay.

[30] In Ovans (2015), standardisation is presented as a type of business model adopted by a specific company. However, in this review, standardisation is defined as the collective agreement amongst a wide range of market actors (both public and private) around the characteristics of a product or service.

- Private-sector grading standards clarify and communicate end market requirements (Fowler and White 2015b, pp. 1, 10).
- Standardised production packages for smallholders ensure appropriate ratios of inputs and increased access to credit (Fowler and White 2015b, p. 1)
- A consistent brand, backed by standardisation of service quality and licencing from a reputable institution such as the Pharmacy and Poisons Board, have played a key role in the expansion of a pharmacy network in Kenya called PharmNet (PSP4H 2015).

Case 6. Improving affordability in the seed market through changes in packaging design

Projects like FIELD-support in Bangladesh, Propcom Mai-karfi in Nigeria (case 1 above) and NAFAKA in Tanzania, have contributed to increase marginalised, smallholder farmers' access to quality seed. This was achieved by assisting local seed companies to develop and market mini-packets of quality seed. Package size was reduced from 20-50 Kg to 1-10 Kg.

In Bangladesh, "farmers reported that they liked and trusted brand-name packaged seeds because of the seeds' reliability, familiarity, proven results and high quality. Results included increased sales of high quality seeds, expansion of seed companies' rural distribution networks, small-scale producers accessing new markets and crowding-in of new seed companies".

In the period between May 2013 and February 2014, more than 2,000,000 seed packets were sold to approximately 450,000 poor and ultra-poor Bangladeshi farmers, who benefited from more than $10 million in additional cumulative income and increased consumption of nutrient-rich vegetables.

Sources: Robinson and Rust-Smith (2017, p. 21) and Fowler, B. and D. White (2015a, p. 20) and FHI360 (2013, p. 7).

PERCEPTIONS

This domain refers to all the strategies, mechanism and tools that MSD programmes have at their disposal to, on the one hand, reduce the perceptions of risk and uncertainty linked to the adoption of an innovation and, on the other hand, reduce the barriers that potential adopters may face to adopt the innovation[31]. **Subsidies, contracts, information, and technical assistance**

[31] Price can be an important barrier to access. The price of a product or service, or the costs related to the adoption of a new idea or practice, have been placed under the design domain. However, the use of subsidies or any other strategy/tool by the MSD programme to reduce price has been located under the PERCEPTIONS domain.

were frequently mentioned. *See for example the mechanisms used by Propcom Mai-karfi (case 1) to reduce perceptions of risk.*

Risks and uncertainty

- Develop contracts and enable the communication of market signals to decrease perceived risks (Fowler and White 2015b, p. 1).
- In MarketMakers (case 2), the lack of information about IT sector opportunities was a constraint for the programme (Wilson 2016).
- Use programme funds to implement pilots and provide total or partial subsidies and use the reputation of the programme to give credibility to the initiatives of strategic market actors; this can reduce the perception of risk of other market actors and investors (Wilson 2016).
- Invest in technical assistance and underwrite major risks during the early stages of the programme. Co-invest if necessary to subsidize business model discovery. Loan guarantees are useful to increase both propensity of banks to lend money and probability to recover programme funds if default rate is low. Demonstrate to key stakeholders that risk is much lower than they expect (Apuyo 2016).
- "Finance can help or hinder the development of constructive commercial relationships; projects should be wary of introducing credit too early in an intervention" (Fowler and White 2015b, p. 3).
- "Value chain development projects need effective mechanisms to manage the inherent risks of the facilitation approach. While the reliance on lead firms to serve as catalysts for change is one of the strengths of the value chain development approach, it also creates risks due to the fact that project implementers lack control over factors [that affect lead firms' performance and decisions]" (Dunn et al. 2011, p. ix).
- "[Provide] funding only to share the initial risks of innovation or to trigger a desired behaviour. Once success has been demonstrated, market players should continue the innovation themselves without inputs from the facilitator" (Hakemulder and Wilson n.d., p. 14).
- "Strong crop demand is a necessary but insufficient condition for input demand. Without confidence in their ability to sell their crops at attractive prices or adequate risk sharing mechanisms, smallholders will hesitate to buy higher quality inputs, particularly if this necessitates going into debt. Intervention design should therefore assess the existence and accessibility of ready markets for farmers, and consider the risks and incentives associated with investments in inputs" (Fowler & White 2015a, p. 4).
- "Avoid utilising standardised cost-sharing modalities – the cost-share agreement should always be based on the actual risk. [The partner should be] motivated by the change, not by the potential short-term gain from your offer (The BEAM Exchange n.d.).
- "Fear of side effects [of family planning] and misconceptions that there is no need for contraception when having sex infrequently and when unmarried are by far the most common reasons for not using contraceptives [according to studies on Kenya]" (Cardno 2015, pp. 2-3).

- "Even for farmers who have received important information on good agricultural practices, other factors [such as social pressure, how information is presented and by whom and aspirations] have a critical role in influencing [adoption]. In some contexts, smallholder farmers do not operate their farming activities to maximize their returns. Other goals, such as asset accumulation or risk mitigation, are often more important." (Fowler and White 2015a, p. 13).

Barriers to access

- Lower financial barriers. However, before providing finance consider whether the price range of the proposed product or service is well-suited to the target population (affordability), and that repayments can be monitored and enforced (SNV n.d.).
- Be mindful of negative effects of subsidies on adoption rates. For example, the unwillingness of beneficiaries to pay unsubsidised prices because they have always paid subsidised prices (anchoring), and possibility of reduced prices signalling reduced quality (Whitehouse et al., p. 6).
- Be careful when applying the rule of thumb that less price increases consumption and vice versa; "[t]he relationship between pricing and usage rate is likely to be product- and context dependent". Cost-sharing is preferable to zero cost or full subsidy. If full subsidy is used, consider introducing opportunity cost to the user; e.g. time and effort required to access the subsidised product/service. Subsidies, or any other factor that increases the appeal of a product/service (e.g. brand, design, status-signalling), should be leveraged to form habits; i.e. get people to do things in 'auto-pilot'. Make any subsidy explicit to users and consider telling them the real cost of the product/service (Whitehouse et al., p. 6).
- "[P]redictable availability of the products and predictability of prices is essential to sustain a habit" (Whitehouse et al., p. 9).

BUSINESS MODEL

This domain refers to the collaboration and coordination of market actors to make (e.g. design, purchase raw materials and manufacture) and sell (from finding and reaching customers to completing the transactions) products or services[32]. Costs and benefits (profitability) of running the business model were frequently mentioned, together with the need to help potential participants make sense of the business opportunities therein. The business model domain is closely linked to the following domains: design (e.g. determines price), relationships (e.g. influences trusts and collaboration to bulk-buy and reduce costs) and communications (e.g. collective learning, productive conflict resolution, and effective use of standards). *See for example the business models used by Propcom Mai-karfi (case 1) and SOBA (case 3).*

[32] Adapted from Ovans (2015). See also in that article different examples of basic forms of business models, such as brokerage, bundling, crowdsourcing, disintermediation, fractionalisation, subscription, etc. Al-Debei, M., R. El-Haddadeh and D. Avison (2008) review and classify several definitions of the business model concept.

What is a business model?

From a systemic perspective, a business model is not simply and "organization's core logic for creating value [or] the explanation of how it makes money", as proposed by Linder and Cantrell (in Al-Debei et al. 2008, p. 2). A definition of business model that is more in line with the MSD literature reviewed is proposed by Torbay et al. (2001):

"The organization's architecture and its network of partners for creating, marketing and delivering value and relationship capital to one or several segments of customers in order to generate profitable and sustainable revenue streams" (cited in Al-Debei et al. 2008, p. 3).

Benefits and business sense

- The programme supported the tractor owners' association to increase the utilisation of tractors and improve repayment rates. "Your partners will see the business sense almost immediately" (Apuyo 2016).
- "[Support new "business models" that address unmet needs in the market system while making good business sense for those who take up the new models" (Hakemulder and Wilson n.d., p.14).
- Keddie et al. (2016, p.13) "found that two fundamental commercial/financial considerations [are] particularly associated with successful scaling up:
    - Transaction capability: The business innovation could operate through existing business networks linking partners, competitors and target beneficiaries; and
    - Profitability: The business innovation was profitable for all parties involved (partners, competitors, enablers and target beneficiaries)".
- "Where vertical relationships were established and sustained [...], there were positive outcomes in terms of farmer adoption of upgraded practices. [...] Where these linkages did not materialize or could not be sustained, such positive outcomes were not observed. Awareness of improved production practices is a necessary precursor to upgrading, but linkages to higher value markets must be in place to provide farmers with enough economic incentives to invest in upgrading their production and post-harvest practices" (Dunn et al. 2011, p.xi).

Costs

- Reduce transaction costs to attract buyers to procure from smallholder farmers. These cost reductions can be achieved – for example- through better aggregation, either on the supply side through producer collectives, or on the demand side through buyer coordination mechanisms. (Fowler and White 2015b, p. 2).

- The coordinating point that best reduces procurement costs varies and should be evaluated in each context and chosen by project partners, not by project staff (Fowler and White 2015b, p. 14).
- "[One of the] constraints that frustrate the diffusion of new technologies [is their] fixed costs" (Cunningham 2018).

RELATIONSHIPS

This domain refers to the commercial and personal connections established between market actors. The most commonly mentioned characteristics were **trust-based relationships and networking, dialogue between market actors and dialogue between the programme team (the facilitators) and the market actors that the team engages directly with (the collaborators)**.

Trust-based relationships and networking

- "Overcome the short-term 'trading' mindset among buyers and promote a long-term beneficial commercial engagement by market actors by building trust, better contract compliance, and ultimately investment in smallholders. [...] In some cases, projects introduced technologies to increase transparency and trust in these commercial transactions". Trust and communication among buyers and sellers are more important than formal contracts, which, together with memoranda of understanding are only weak proxies for trust itself (Fowler and White 2015b, p. 3).
- "[Clean cook]stove distributors should seek to build durable relationships and gain the trust of their targeted community" (SNV n.d.).
- In MarketMakers, fragmentation and distrust between firms was the "keystone" problem linking all the key constraints. (Wilson 2016).
- Projects should screen potential partners for trustworthiness. If advocacy and institutional reform are important, projects should allocate the time and resources to build relationships and trust with decision makers (Fowler and White 2015b, p. 3).
- "A [...] success factor is the enterprise's ability to leverage local institutions, networks, and entrepreneurs in order to reach out to a larger pool of customers and reduce distribution costs" (SNV n.d.).
- "[E]ven the temporary presence of corporate buyers with transparent purchasing practices was enough to transform trading practices in the [marketplace]. Transparent linkages between farmers and corporate buyers, even when they were not sustained, broadened farmers' marketing experiences and altered farmer expectations. [...]" (Dunn et al. 2011, p.ix).
- "Trust and interaction among companies has increased, but this has not yet led to significant numbers of larger or joint projects. [Owners and managers agree that part of the explanation is time] but increased trust and interaction created an environment where entrepreneurship and innovation are valued, encouraging small companies and start-ups to grow more aggressively" (Hakemulder and Wilson n.d., p. 20).

- "Our research indicated that the systemic drivers around access to [...] seeds are trust, and convenience of the purchasing location. Farmers prefer to purchase seeds from a trusted partner within their existing social network" (Matthews 2017).
- "Networking platforms for women [...] may be a helpful tactic to raise awareness of social norms across varying economic circumstances [... This] can encourage new ideas, practices and acceptance among more isolated groups" (Miller and Markel 2016, p. 10).
- Linking producers with buyers beyond the farm gate spot market can benefit geographically-constrained female producers (Fowler and White 2015b, p. 3).
- "Crowding-in interventions tend to focus on building relationships between players, as well as stimulating and advocating for positive responses from players in supporting systems" (The Springfield Centre 2015, p.36).

Case 7. Leveraging pre-existing trust in the solar products market

"SunnyMoney, a social enterprise importing energy-efficient solar devices from China, sells products across East and Southern Africa by using relationships developed with schools and education systems. Sunny Money takes advantage of the trust placed in headteachers and their link to an important target market: families with school-age children who can benefit from solar energy products"

A "dramatic" example of scale-up took place in Tanzania. In 2012, only 3% of households were using solar products. After three years of SunnyMoney's work in the Lake Zone, more than 50% of households in the Mwanza, Mara, Shinyanga, Simiyu, Geita and Kagera regions were using solar lighting products.

In 2015, after considering that the market in Tanzania had reached a point where other social enterprises and small businesses could take over, SunnyMoney scaled back operations and pulled out. They did the same in Kenya back in 2016.

Source: SolarAid (2016).

Dialogue[33] between market actors

- Private-public dialogues are important to create a more effective environment for advocacy (Fowler and White 2015b, p. 2).
- Promote dialogue and reflection within communities (Markel et al. 2016, p. 7).
- Lack of public-private dialogue was a constraint for the programme. (Wilson 2016).

[33] In most of the sources reviewed, dialogue was approached as something more than just functional conversation, exchange of information, discussion or debate. Programmes where dialogue was an important component used it to generate new solutions to complex market problems; respectfully considering the perspectives of a multiplicity of market actors and other key stakeholders (including those that are outside of the system that is being intervened). Expressions like "listen carefully", "allow the market actors to explore", "give market actors enough time to make sense of the situation", "be responsive", etc. were common in these programmes.

- "Dialogue has led to initial steps to improve the business environment, which should result in more investment and more job opportunities, however this will only happen on a relatively long timescale" (Hakemulder and Wilson n.d., p. 19).
- Projects should prioritize farmer collaboration over the development of organizational structures (Fowler and White 2015b, p. 3).

Dialogue between programme team (facilitators) and market actors (collaborators)

- Listen to and learn from your partners – they are risking their own money. Spend more time with them. Actively monitor feedback from stakeholders on their results (Apuyo 2016).
- Prepare your first engagement with the target communities carefully. Understand well the customer base, the products or services that are needed and the strategies that are likely to give the best results given the local constraints (SNV n.d.).
- "Present business opportunities and allow self-selection" (Jones 2016, p. 12).
- Select partners according to the area and the local constraints: "in urban and peri-urban areas, partnering with large distributors can be particularly effective in order to reach out to a large number of customers; in rural areas, where such distributors are often inexistent, less conventional options can be examined, both among existing and potential entrepreneurs -including women- and local community networks of various natures" (SNV n.d.).
- "We found that the choice of pilot partner according to strategic fit between the pilot and their existing business, and their financial and management capability were important to intervention success and achieving impact at scale" (Keddie et al. 2016, p. 13).
- Be patient; "[n]ormative change does not happen at once". It also operates at different levels of a system "and require the participation of members of the community to uphold and reinforce expectations about men and women's roles in society" (Burjorjee et al. 2017 p. 4).
- "[Support] programme teams to recognise and address social norms at different stages of program design and implementation. [This can help them] to speak frankly and openly about gender norms and to navigate local contexts with sensitivity" (Markel 2016, p. 6).
- "Speak the language of your market actors and suggest appropriately packaged incentives" (Miller and Markel 2016, p. 10).
- Listen to the needs, aspirations, barriers, and motivators of everyone involved (iDE n.d.).

COMMUNICATIONS

This domain refers to the flow of information between market actors through different channels and with varying levels of formality (from very formal documentation to informal and even non-verbal information[34]). The most common examples in MSD programmes are information about **progress made, results achieved, lessons learned and evidence of impacts and benefits.**

[34] E.g. facial expressions and body language.

Communication of progress, results, lessons, evidence of impacts and benefits

- Communicate results (Apuyo 2016).
- Improving companies' information flows can support better management and strategic decisions (Fowler and White 2015b, p. 3).
- If a product has a long life-cycle, local demand saturation is a risk and, therefore, it "may be very useful to reach out to a large pool of customers (e.g. several communities). For this, above-the-line (ATL) marketing, that is, indirect and large-scale advertising in the form of TV or radio spots for example, is useful as it can help build product awareness and a strong brand image" (SNV n.d.).
- "Normative messages delivered through an individual's most proximate group of friends or peers have a more substantial impact than messages that come from outside of his or her direct social network" (Burjorjee et al. 2017, p. 3).
- "Normative messages that are aligned with people's personal beliefs about what is right and wrong for their peer group or social status tend to have greater impact than those that focus on what external experts think or do" (Burjorjee et al. 2017, p. 3).
- Avoid overemphasising negative social norms or applying punishments. "[M]essages and approaches that are aspirational and identifiable are key. Mass media is being used increasingly as a potent tool to influence changes in social norms around women as economic actors". The promotion of "positive attitudes and beliefs among large segments of a population about [a specific target group] help create more accepting environments for [that group] to adopt new behaviors" (Burjorjee et al. 2017, p. 3).
- "Programs that focus on gender-specific norms change [...] should approach gender equality as an abundant resource that is good for the entire community and offers benefits to all". Engaging both men and women "in addressing social norms change is important in ensuring transformative change [For example,] highlight the benefit of women's greater financial inclusion to the whole family [...] and minimize the disadvantages of changing gender roles" (Markel et al. 2016, p. 7).
- "A higher percentage of farmers reported that they would likely practice behaviors if they were exposed to multiple BBC [behavioural change communications] mediums. For BCC to be most effective, it is important to ensure that as many households as possible are exposed to multiple campaign messages" (Danya Africa 2015, p. 24).
- "[D]ue to illiteracy, [...] farmers are generally not reading the package, but they are using [experience] to verify product quality [...]" (Matthews 2017).
- "[I]ndividuals often fail to clearly understand and process [...] messages that involve a percentage chance. Salient, simple messages that do not overstate the probabilistic effect of the product are most likely to work" (Whitehouse et al., p. 8).
- "[R]eminder messages are quite effective in encouraging (correct) use" (Whitehouse et al., p. 8).
- Household structure (e.g. polygamy, monogamy, single-parent, migrant parent, extended family child care) and who receives the information in the household matters. Information

might not always be shared between household members or, even when it is shared, the resulting decision will depend on their preferences and bargaining power. E.g. mothers attaching more importance to the health of their children than the fathers. (Whitehouse 2017, p. 9).

- "[I]nfluencing the media presents development programmes with a huge opportunity for impact. If interventions are carried out in a sustainable way, emphasising ownership and the right incentives, the media can continue informing and influencing your target group, long after the project ends." (Bassey-Osijo and Seely 2017).
- In MarketMakers (see case 2 above) clever use of media caught the attention of politicians, leading to IT being declared a strategic sector at two levels of government and included in 15 legislative proposals (Wilson 2016).

Case 8. The FIT programme's support for radio programmes about business in Uganda

"The International Labour Organization's (ILO's) FIT programme [...] promoted radio programmes about small business issues on private FM radio in Uganda, in order to provide entrepreneurs with information to make business decisions and to give them a voice to influence government decisions affecting the business environment. The radio programmes proved sustainable once donor support ended, and have subsequently been copied and replicated within the industry. [...] The radio programmes have stimulated policy, legal and regulatory change".

Source: Robinson and Rust-Smith (2017, p. 20).

CAPACITY

This domain refers to the combination of competencies and skills that market actors require to find, test and evaluate innovations, as well as the competencies and skills they build through their exposure to the innovations. The most frequently mentioned characteristics where **capacity to innovate, incremental change and learning, and capacity of early adopters and opinion leaders**.

Capacity to innovate

- Build farmers' capacity to find and evaluate profitable opportunities and increase the capacity of buyers and processors to source from smallholders. (Fowler and White 2015b, p. 2).
- Provide technical assistance (Wilson 2016).

- Transferrable skills in opportunity identification are key. Projects should avoid viewing market actors solely through the lens of a single crop or commodity (Fowler and White 2015b, p. 3).
- "Input application knowledge is an important complement to input access. Without knowledge of appropriate application, and the incentives to apply them, the delivery of improved inputs will have minimal or even negative effects. [...] It is essential that those investing in input delivery invest simultaneously in extension services to address this significant barrier to scale." (Fowler and White 2015a, p. 4).
- "[Support] market players to innovate and improve their existing roles or take on new roles" (Hakemulder and Wilson n.d., p. 14).
- "Think twice before assuming a 'lack of capacity'. Consider the behaviours, incentives and attitudes among people who appear to lack capacity. Why haven't they acquired that capacity?" (Seely 2016).

Incremental change and learning

- Build on existing business models and strategies of partners. Partners have their own strategies – do not impose your own "innovative strategy" (Apuyo 2016).
- Institutional change processes are lengthy. Export market access is complex and often expensive for producers and suppliers. Small, incremental shifts in farmer production systems are more likely to be adopted than larger shifts Pilots should be conservative and ensure that market commitments are in-line with realistic changes in farmer production systems in a single season. The complexity of commercial relationships means they must be built gradually, starting with simple business models that both parties understand (Fowler and White 2015b, pp. 12, 18-19, 21).
- "We found that business innovations developed largely by the partner, or by the partner and the project together, were more likely to be successful than innovations developed by the project which then induced the partner to adopt" (Keddie et al. 2016, p. 13).
- "[M]ost health products are 'experience goods', meaning that households need to learn how to use them and what their effects are while using them. In theory, subsidies [...] might allow households to [...] learn about the product [and] incentivise the household to sustain use, even after the subsidies have been removed" (Whitehouse et al., p. 5).
- If people show interest in an innovation, it is important to create conditions for them to experience it first-hand. For example, "local demonstrations, trial periods and free services like [...] installation for new users" (SNV n.d.).
- "Farmers can readily learn upgraded practices from other farmers, but well-qualified technical and extension personnel are needed to initiate the learning process" (Dunn et al. 2011, p. ix).

Capacity of early adopters and opinion leaders

- "A key requirement for any successful stove distribution is a capable and committed sales force". Sales agents need to be rigorously selected. Some criteria are experience (e.g. in

retail), motivation and reputation. "[P]roper capacity-building, incentives and oversight should also be put in place and ensured on an ongoing basis." (SNV n.d.).

- "One of the most effective ways to reach out to communities and convince them of the life-changing impacts of owning an improved stove is to rely on peer connections and word of mouth [...] When it comes to generating actual demand, trusted community members and family members can relay the benefits of a new product" (SNV n.d.).
- Bring "recognition and visibility to early adopters for behaviours consistent with social norms that promote women's empowerment" (Markel et al. 2016, p. 7).
- "Confidence and competency appear to be a key ingredient for [a] comfortable interaction [between women service providers and other market actors]" (Jones 2016, p. 9).
- "[I]dentify sub-sectors where a large number of women are already working, and where some women have already been empowered economically. These role models can help other women become exposed to potential alternative roles" (Miller and Markel 2016, p. 10).

Practically all the excerpts presented above are part of a rich and complex context. Extracting them from their contexts and categorising them as domains is useful to detect patterns of practice but we should always remember that these domains are interdependent and contextual and that no single factor is enough for scale-up to happen. For example, standardisation can reduce the costs of a business model but at the same time introduce barriers for some users.

The following diagram proposes a model showing the relationship between each one of the six domains:

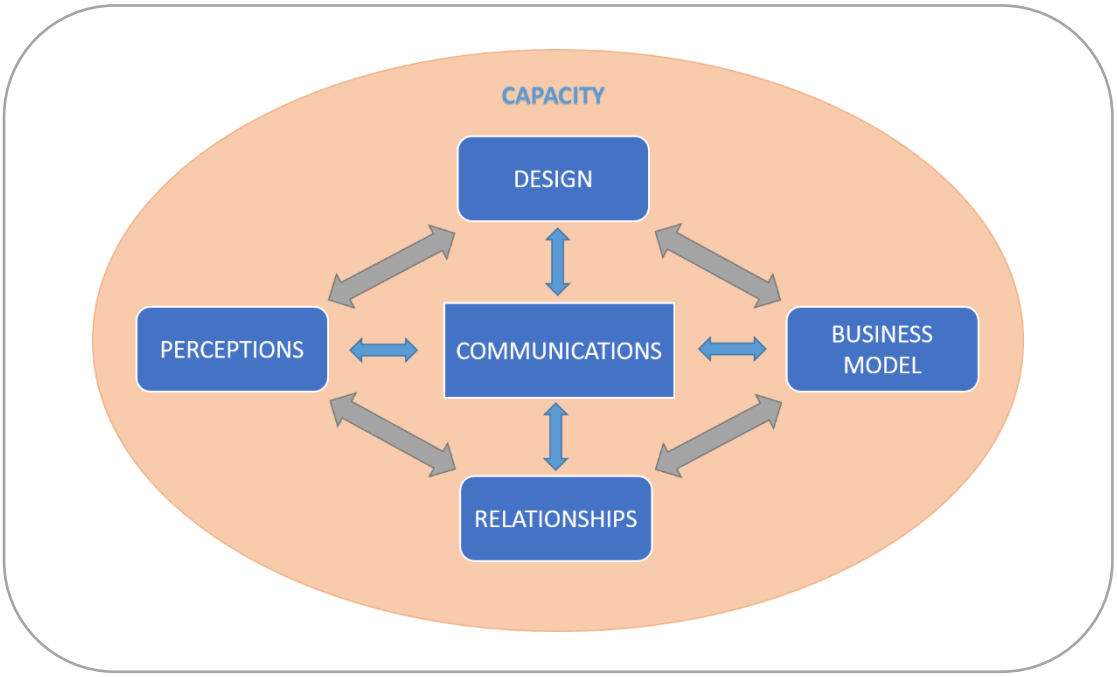


Figure 12. Six Domains model.

This diagram tries to convey the interdependence between domains, the connecting role of communications and the pervasive enabling nature of capacity.

Scale-up in MSD: Good practice and missing elements

The six domains model is a map of practices and considerations found in MSD programmes where evidence of systemic change and scale up driven by market actors exists. The model tells us what is already being done or taken into account by these programmes but not necessarily what is missing. This review proposes to use Diffusion of Innovations (DOI) theory as a reference point to find the gaps.

The following table is a comparison between the main components of DOI theory and the findings from the MSD literature review, as synthesised in the Six Domains model:

Table 3. Comparison between DOI components and MSD considerations and practice.

Domains	DOI components	MSD findings
Design	Characteristics of an innovation that explain speed of adoption: • Relative Advantage: better than others? • Compatibility: in line with users' values, experiences and needs? • Complexity: easy to understand or use? • Trialability: can it be tested before adoption? • Observability: are the effects visible and understood by others?	There is evidence of MSD programmes paying attention to some of the characteristics highlighted by DOI, particularly: • Appropriateness and flexibility: Similar to compatibility. • Affordability: Similar to relative advantage. • Standardisation: This could be similar to complexity; however, standardisation can make an innovation more or less complex (not always less complex).
		Trialability can have a significant effect on perceptions of risk.
		Observability contributes strongly to the communications domain (the more 'observable' the effects of an innovation, the easier it will be to communicate them).
		Trialability and observability are also linked to the idea of demonstration effect.
Percep-tions	<u>Innovation-decision process:</u> • Knowledge: Exposure to & basic understanding of innovation.	There is evidence that some MSD programmes take into account one or more of the innovation-decision stages. For example, trial periods, free samples and subsidies are used to increase market actors' exposure and knowledge about new products and services; and

	• Persuasion: Formation of positive or negative attitudes towards innovation. • Decision: Acting to adopt or reject it. • Implementation: Putting it into use. • Confirmation: Reinforcing decision and maintaining innovation in use.	technical assistance and peer-support groups are used to help market actors implement the innovations. What is not clear from the literature is to what extent MSD programmes are using DOI theory (or any other similar theory) to plan and implement the process that market actors must go through to adopt an innovation and keep on using it.
Business model	The term is not used in DOI theory (Rogers 1995). This gap may be explained by the fact that his DOI theory approaches innovation in a punctual or discrete way: an idea, practice or object (p. 11), not as a diffused entity that manifests in one or more networks.	A business model is indeed an innovation and – therefore, its design should consider the characteristics proposed by DOI (see the Design domain in this table, above). However, it is much more than a discrete entity; it is a 'networked' entity that brings together different types of market actors around the objective of value addition through relationships of collaboration and coordination. These relationships are not only of an economic and technological nature; they are also social, cultural, emotional and so on. The MSD literature includes many references to the idea of business model and there are programmes that are carefully considering the design, context and requirements for business models to be effective, sustainable and scalable.
Relation-ships	Social system: Three aspects of social systems: structure, norms and actors.	There is significant evidence of MSD programmes considering actors, relationships and norms. This is to be expected because these characteristics are inherent to the MSD approach and it would be impossible for an MSD programme to function without them. However, there are very few examples of MSD programmes considering *structural* properties and patterns of networks, such as size, density, centrality and connectedness, to make strategic decisions. The use of network analysis techniques is relatively new in the MSD field and there are significant technical challenges and high costs involved due to data scarcity, fragmentation, subjectivity and secrecy. Nevertheless, some MSD programmes that have used these techniques report that they have helped them quantify and monitor structural change in market systems. (See case 5).

Communi-cations	<u>Communication and communication channels:</u> Two main types: Mass media and interpersonal. Diversity: Homo and heterophily. How much variance between market actors?	There is evidence of programmes using both mass media and interpersonal communications to stimulate scale-up. It is more frequent to find examples of the latter but interest in strategic use of mass media in MSD is growing. Some programmes make use of homophily in the form of peer-support, farmer-to-farmer communications, and local sales agents. However, there is no mention of strategic use of heterophily, for example in stakeholder selection and interventions that bring different types of stakeholders together to address market blockages.
Capacity	<u>Innovativeness of individuals:</u> Innovators, early adopters, early majority, late majority and laggards.	As it was shown in table 1 above, capacity building is one of the most common practices in the implementation of scale-up strategies. However, most MSD programmes still focus their capacity building efforts on those with whom the programme works closely with the aim of helping them adopt new practices and behaviours. Some MSD programmes recognise that different market actors have different levels of 'innovativeness'. Only a few, such as the Market Assistance Programme in Kenya[35], use these differences to assess systemic change. No evidence was found of intentional efforts by MSD programmes to (i) assess the levels of innovativeness of the market actors before they are trained; (ii) select the trainees accordingly; and (iii) build their capacity not just to help them adopt new behaviours but also, and mainly, to drive their diffusion and promote scale-up. There are programmes where mass media play a central role that also pay attention to the early majority, but their interventions focus on information and awareness raising; not on training or coaching. There is no evidence of explicit considerations about the characteristics and capacity needs of the late majority.

[35] See the Benchmarking Tool for Pro-Poor Market System Growth used by the programme and described in Osorio-Cortes et al. (2013, pp. 32-35).

Conclusions

This literature review shows that MSD programmes are becoming increasingly aware of the importance of behaviour change for scalability and sustainability. However, more work is needed before MSD programmes embrace behavioural science in a systematic way to boost their impacts.

The MSD approach has a general theory of change which depends, initially, on the engagement of a relatively small group of *innovators* and *early adopters* with whom the programme interacts closely and, later, on the response of an *early majority*. Beyond this point, it is very difficult for MSD programmes to know first-hand what happens with innovations and behaviour change amongst the 'late majority' group. The multiplicity of factors that contribute to systemic change mean that a causal connection with the programme's interventions is hard to establish. However, there is increasing interest in innovative M&E methods to detect early signals of shifts towards structural change. Behaviour change science can contribute a great deal to this exploration.

This review also shows that Diffusion of Innovations (DOI) theory is a useful framework to gain a better understanding of what is working well in MSD practice and why, and what is missing. However, DOI has weaknesses and gaps. An example of a weakness is the so called 'individual-blame bias' (i.e. the tendency to hold an individual responsible for his or her problems, rather than the system of which the individual is a part), which has important consequences for the selection and engagement of market actors. An example of a gap is the lack of attention to business models as niches of innovation and drivers of diffusion and scale up. In this area, MSD can contribute to the fields of behaviour change, diffusion of innovations and scale-up. A closer connection and a richer conversation between experts in these fields could bear important fruits for MSD programme effectiveness and efficiency.

Another finding is the absence of detailed descriptions and analysis of the facilitation strategies used by the programmes. This is crucial, given the paramount importance of facilitation in the adoption and adaptation processes (as proposed in the AAER model). It is possible that programme teams plan and manage the facilitation process well, but in most cases these details are not described in their reports or case studies. When they are, there are no theoretically-grounded explanations of why certain facilitation strategies were used or why they worked or not. In other words, there is no explicit intention to scientifically test (within the limitations of social research) the effects of their facilitation strategies on adoption, scale-up and sustainability.

It is clear from this review that MSD programmes have curiosity and desire to learn more about the ways in which facilitation, systemic change and behaviour change interact to produce scaling-up. But unless implementers and donors recognise that MSD is as much about process as it is about outcomes, the valuable lessons that these teams are learning about how to

facilitate behaviour-change scale-up in market systems will continue to be forgotten and future programmes will continue to reinvent the wheel.

In his book Diffusion of Innovations, Rogers (1995) includes a long list of "generalisations"; for example: "early adopters have greater rationality and have a more favourable attitude towards change and science than later adopters" (p. 273), and "larger organisations are more innovative" (p. 379). Despite being generalisations, they can provide some guidance about what hypotheses to test and what issues to explore in different market systems. Once contextualised, these generalisations can prove quite useful for the design, implementation and M&E of MSD interventions.

Recommendations for future research

The following are areas where more attention, investment and research from donors and implementers alike should produce significant returns in terms of higher impact, scalability and sustainability:

Product, service and business-model design: Despite this being one of the strongest areas in MSD overall, it is important to study it further under the lenses of diffusion of innovations theory and behaviour change science. The following issues are particularly relevant:

- To gain a better understanding of the limitations of the 'demonstration effect'. As stated by The Springfield Centre (2015, p. 38), "[i]t is common for programmes to [assume that] crowding-in will occur through a demonstration effect as a result of initial interventions. In reality the demonstration effect is not as powerful as many programmes think" (this is confirmed by Dunn et al. 2011, pp. 21-22).
- To apply what is already known about the characteristics of innovations that accelerate adoption rates with the aim of improving the design of business models. It is very likely that the cross-cutting nature of business models will benefit from research in the areas proposed here below.

Stakeholder diversity, innovativeness and capacity building: This area refers to what Rogers (1995, p. 18) calls homophily and heterophily. It also relates to the ideas of Granovetter about 'weak' and 'strong' links in networks (1973), and threshold-based models of collective behaviours (1978).

Research in this area would aim at shedding light on questions like: What role does diversity play in diffusion of innovations in market systems? What are the implications for stakeholder selection and engagement? How can practitioners manage diversity to improve peer-influence and scale up in multi-stakeholder platforms and participatory market analysis and implementation? It would also produce practical knowledge about how to identify and engage early and late adopters, and how to bring them together to produce specific scale up outcomes.

In the MSD literature most of the attention is paid to building the capacity of different market actors to adopt new practices and of lead firms to expand. Of particular importance here is gaining a better understanding of how to tailor capacity building interventions to the specific characteristics and needs of different groups of market actors displaying different levels of innovativeness. Valuable lessons on this issue have been learned by MSD programmes through their interventions to promote *adoption* and *expansion* of new behaviours which must be shared and discussed widely. However, more needs to be done to understand how to boost the structural capacity of market systems themselves (not of individuals but of institutions, norms, infrastructure, etc.) to stimulate and nurture the *expansion* and *response* processes[36].

System structure: Despite the challenges in measuring network structures and monitoring their changes, it is important for the MSD community of practice to strengthen its dialogue with social network analysts, mainly to stay abreast of developments in this field. As information and communication technologies evolve, new possibilities open up to overcome data scarcity, fragmentation and subjectivity, making network analysis a more feasible proposition for MSD. Research in this area should help to understand what is feasible for MSD programmes and in which sectors and contexts does network analysis work better and why.

Driving strategies and governance: In the first half of this review, we identified two driving strategies: network-driven and firm-driven strategies (see fig. 9). The second half shows the factors that must be considered to execute these strategies effectively (see table 2). A relevant area of research could attempt to explore how these factors affect the scale-up strategies in different ways. Within this area of research, there is a specific question about governance that should be studied in detail. 'Value chain' governance – as proposed by Gereffi and others back in the 1990s (Gereffi et al. 2005, p. 82) – is deeply related to the relationships that market actors develop to do business, innovate and learn from each other.

For example, in a firm-driven strategy, the MSD team will most likely be dealing with 'captive value chains' (one of the five types of governance[37]), high levels of vertical integration and – in some cases- dominant market position (oligopoly or even monopoly). This is different to a network-driven strategy, where the team will most likely be dealing with 'market' or 'relational' linkages, low vertical integration and relatively low switching costs to other buyers and suppliers. Taking these differences into account, a reasonable research hypothesis is that the scale-up

[36] To some readers this might sound like an old and tired recommendation but this deficiency at the policy and practice levels is still hampering the effectiveness of systemic development programmes. For example, in 2014, Schut and his colleagues reviewed 107 publications to study the relation between crop protection and systems approaches to innovation. They found that "[a]pproaches focussing on structural transformations to enhance the overall crop protection system's capacity to generate and respond to change are discussed, but generally receive little attention" (Schut et al. 2014, p. 105).

[37] The five types of value chain governance proposed by Gereffi et al. (2005, pp. 83-84) are – from low to high costs of switching to new relationships: markets (low costs of switching), modular value chains (tailored services), relational value chains (reputation and family and ethnic ties), captive value chains (small suppliers highly dependent on lead firms) and hierarchy (full vertical integration).

factors identified in the second half of the review (e.g. product design, risks, costs, trust-building and capacity building) will have different impacts on the behaviour of the market actors depending on the prevailing chain governance structures.

Perceptions: This area of research can help MSD programmes improve their facilitation processes and strategies by providing a better understanding of what goes on in the minds of market actors throughout the innovation-decision process? How do market actors – in particular early adopters- perceive MSD programme staff and how does this affect rates of adoption? How do market actors (both public and private) calculate the benefits and risks of innovation in different contexts? There is already a lot of knowledge about these issues in fields like marketing, psychology and behavioural science, but the MSD community could benefit greatly by applying this knowledge to MSD programmes in a more systematic way.

Strategic niche management (SNM): Studying MSD in detail it is hard not to make a connection with the SNM approach, which "suggests that sustainable innovation journeys can be facilitated by creating technological niches, i.e. protected spaces that allow the experimentation with the co-evolution of technology, user practices, and regulatory structures" (Schot and Geels 2008, p. 537). This is an approach that has specialised since the 1980s in something very similar to what MSD has been trying to achieve: the creation of the right conditions for new pilots to work, take root in their local context and disseminate to the point that they displace other ideas (technologies, behaviours, practices) and transform the broader system where they operate. The recommendation here is to promote more dialogue and mutual learning between the MSD and SNM communities of practice.

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